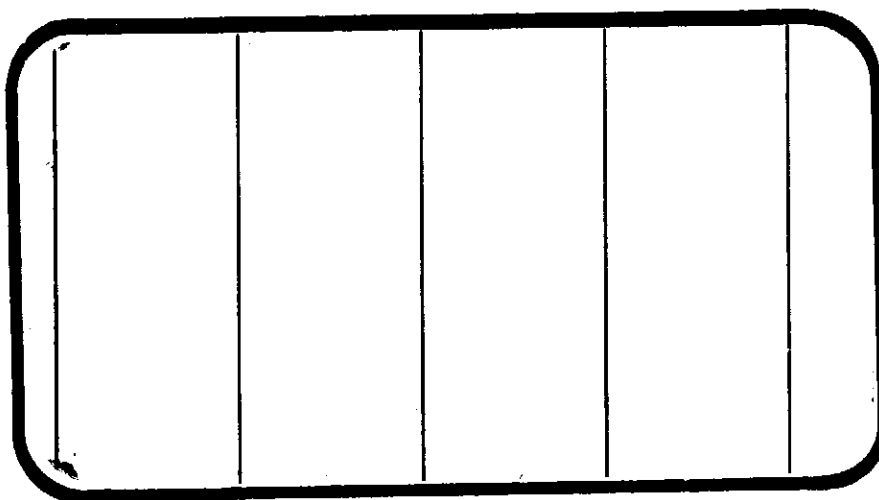


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NASA CR-

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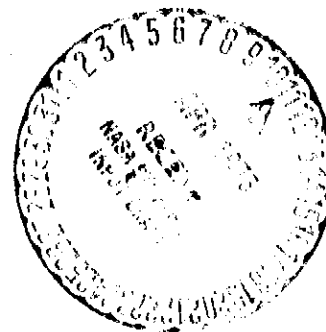
(NASA-CR-141506) RESULTS OF INVESTIGATION
IA110 ON A 0.015-SCALE INTEGRATED
CONFIGURATION OF THE SPACE SHUTTLE VEHICLE
IN THE ARC 9 X 7 SUPERSONIC WIND TUNNEL
USING MODELS 67-TS AND 49-0 (Chrysler

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER
CORPORATION

February, 1975

DMS-DR-2189
NASA-CR-141,506

RESULTS OF INVESTIGATION 1A110 ON A 0.015-SCALE
INTEGRATED CONFIGURATION OF THE SPACE SHUTTLE VEHICLE
IN THE ARC 9 x 7 SUPERSONIC WIND TUNNEL
USING MODELS 67-TS AND 49-0

By

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Prepared under NASA Contract Number NAS9-13247

By

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New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: ARC 97-052
NASA Series Number: IA110
Model Number: 67-TS and 49-0
Test Dates: 8 through 11 July 1974
Occupancy Hours: 60

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Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

RESULTS OF INVESTIGATION IA110 ON A 0.015-SCALE
INTEGRATED CONFIGURATION OF THE SPACE SHUTTLE VEHICLE
IN THE ARC 9 x 7 SUPERSONIC WIND TUNNEL
USING MODELS 67-TS AND 49-0

By

E. Chee, Rockwell International Space Division

ABSTRACT

Results of test IA110 are presented in this report. An 0.015-scale Space Shuttle Vehicle model was tested in the Ames Research Center 9 x 7 Supersonic Wind Tunnel during July 1974 to investigate Orbiter wing bending, elevon panel loads, and elevon effectiveness. Mach numbers from 1.5 through 2.5 were investigated. Angles of attack and sideslip were varied from -8 degrees through +8 degrees.

Post test analysis of raw wind tunnel data indicated a zero shift had occurred in the wing bending and torsional gages during the test. The mechanism by which this shift occurred was not determined. Therefore, all the wing root bending and torsional moment data is suspect.

Data figure 18 presents comparisons with data from test IA70 (DMS-DR-2175). The same model and instrumentation was used for both tests.

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COEFFICIENT SCHEDULE:

- (A) CHEO-L, CHEI-L, CBW-R, CTW-R versus ELV-OB
- (B) CHEO-L, CHEI-L, CBW-R, CTW-R versus ELV-IB
- (C) CBW-R, CTW-R, CHEO-L, CHEI-L versus ALPHA

NOMENCLATURE General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C_p	CP	pressure coefficient; $(P_1 - P_\infty)/q$
M	MACH	Mach number; V/a
P		pressure; N/m ² , psf
q	Q(NSM) q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
Re/L	Re/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A_b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MNP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>NADESAC SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient; $C_A - C_{A_b}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS L_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDf	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS L_{REF}}$
C_n	CIN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D_f	L/DF	lift to forebody drag ratio; C_L/C_{Df}

NOMENCLATURE (Continued)
Additions to Standard Nomenclature

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
A_{b1} through 10		model base area associated with base pressure numbers 1 through 10, respectively, for base axial force integration, ft^2
A_{SC}		sting cavity cross-sectional area, ft^2
A_{SC1} , A_{SC2}		sting cavity base area associated with sting cavity pressures number 1 and 2, respectively, ft^2
\bar{C}_{BF}		body flap mean aerodynamic chord, in
\bar{C}_e		elevon mean aerodynamic chord, in
C_{p1} through 12		base pressure coefficient associated with orifice number 1 through 12, respectively
C_{PSC1} , C_{PSC2}		sting cavity pressure coefficient associated with orifice number 1 and 2, respectively
C_{Au}	CAU	unadjusted axial-force coefficient
P_{b1} through 10		base pressure measured at orifice 1 through 10, respectively, psia
P_{SC1} , P_{SC2}		sting cavity pressure measured at orifice number 1 and 2, respectively, psia
S_{BF}		body flap surface area, ft^2
S_e		elevon surface area, ft^2
X_o		Orbiter longitudinal station, in
Y_o		Orbiter lateral station, in
Z_o		Orbiter vertical station, in
X_T		external tank longitudinal station, in
Y_T		external tank lateral station, in
Z_T		external tank vertical station, in
δ_{BF}	BDFLAP	body flap, surface deflection angle, degrees

NOMENCLATURE (Concluded)
Additions to Standard Nomenclature

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
δ_{SB}	SPDBRK	speedbrake, split rudder inclusive deflection angle between outer surfaces: degrees
δ_r	RUDDER	rudder, surface deflection angle, degrees.
δ_{eIB}	ELV-IB	inboard elevon deflection angle, degrees
δ_{eOB}	ELV-OB	outboard elevon deflection angle, degrees
C_{HEO_L}	CHEO-L	left outboard elevon hinge-moment coefficient
C_{HEI_L}	CHEI-L	left inboard elevon hinge-moment coefficient
CBW_r	CBW-R	right wing bending moment coefficient
CTW_r	CTW-R	right wing torsional moment coefficient
C_{HET_L}	CHEI-L	total left elevon hinge-moment coefficient
C_{HET}	CHEI	total elevon hinge-moment coefficient
C_{HEI}	CHEI	inboard elevon hinge-moment coefficient
C_{HEO}	CHEO	outboard elevon hinge-moment coefficient
$CHBF$	CHBF	bodyflap hinge-moment coefficient
$CBW1$	CBW1	wing bending moment coefficient, station 1
$CBW2$	CBW2	wing bending moment coefficient, station 2
$CTW3$	CTW3	wing torsional moment coefficient, station 3
CBW	CBW	wing bending moment coefficient
CTW	CTW	wing torsional moment coefficient
X_{cp}/λ_B	XCP/L	longitudinal center of pressure location of total vehicle, percent reference body length

CONFIGURATIONS INVESTIGATED

The model was an 0.015-scale representation of the Rockwell International Space Shuttle integrated vehicle. The Orbiter was per VL70-000 140A/B lines. The external tank represented VL78-0000 31A and VL78-0000 41A lines. The solid rocket motors were per VL72-0000 88D and VL77-0000 36A lines. Figure 2 presents sketches of the model configuration. Model simulation included attach structure, protuberances, fairings, fuel feed lines, vent lines, etc. Basic model construction was of ARMCO 17-4 steel.

Model forces and moments were measured by a Task 1.5 inch MK VII A balance housed in the Orbiter. The balance attached to a sting entered the model through the Orbiter base. The left wing inboard and outboard elevon panels and body flap were instrumented with hinge moment gages as shown in figure 2h. The model right wing was instrumented with a balance which measured wing bending and torsional moments as shown in figure 2i. The model base was instrumented to measure fourteen (14) pressures as shown in figure 2g.

The OMS pod configuration (M_7) was investigated during this test. Inboard elevon deflections of 0° , 8° , and 12° were investigated. Outboard elevon deflections of -8° , -4° , and 0° were tested. The following shorthand configuration notation was used:

O_1 = Orbiter B26 C9 M7 F8 W116 E43 V8 R5 N24

T_{12} = External tank, T_{12}

CONFIGURATIONS INVESTIGATED (Concluded)

S_1 = Solid Rocket Booster, S_{12} N_{41}

P_2 = Fairings, PS_1 PS_2 PS_3

P_8 = Miscellaneous components, PT_1 PT_2 PT_3 AT_5 AT_6 AT_7 AT_8
 AT_9 FL_1 FL_2 FR_6

TEST FACILITY DESCRIPTION

The tests were conducted in the Ames 9- by 7-Foot Supersonic Wind Tunnel. This tunnel is a variable density, continuous flow type with an adjustable nozzle to permit supersonic testing over a Mach number range continuously variable from 1.5 to 2.5. The nozzle is of the asymmetric, sliding-block type in which the variation of the test section Mach number is achieved by translating, in the streamwise direction, the fixed-contour block that forms the floor of the nozzle.

DATA REDUCTION

Main balance data were reduced to coefficient form about a MRP located

at:

$$X_T = 979.0 \text{ in}$$

$$Y_T = 0.0 \text{ in}$$

$$Z_T = 400.0 \text{ in}$$

The following reference dimensions were used:

$$S = 2690.0 \text{ ft}^2$$

$$l_b = 1290.3 \text{ in}$$

= used for C_m , C_n , C_ℓ , X_{cp}/l

Hinge moment data were reduced about their respective hingelines using the following reference values:

$$S_e = 210.0 \text{ ft}^2$$

$$\bar{c}_e = 90.7 \text{ in}$$

$$S_{BF} = 142.6 \text{ ft}^2$$

$$\bar{c}_{BF} = 84.7 \text{ in}$$

Wing normal force, torsional moment, and bending moment were reduced about:

$$X_0 = 1307.0$$

$$Y_0 = 106.0 \text{ (wing root chord)}$$

The following reference dimensions* were used:

$$S = 2690.0 \text{ ft}^2$$

$$\bar{c} = 474.81 \text{ in}$$

$$b = 936.68 \text{ in}$$

DATA REDUCTION (Continued)

Torsional moment was reduced using \bar{c} and bending moment was reduced using b .

Post test analysis of raw wind tunnel data indicated a zero shift had occurred in the wing bending and torsional gages during the test. The mechanism by which this shift occurred was not determined. Therefore, all wing root bending and torsional moment data is suspect.

In order to define the wing bending and torsional characteristics and determine where the zero shift occurred, gage interaction corrections were applied to the data. The wing bending and torsional moment individual gage values were corrected as indicated by the following method:

$$CBW1 = CBW1_u + CBW2_u \frac{\partial M_1}{\partial M_2} + \frac{\bar{c}}{b} CTW3_u \frac{\partial M_1}{\partial M_3}$$

$$CBW2 = CBW1_u \frac{\partial M_2}{\partial M_1} + CBW2_u + \frac{\bar{c}}{b} CTW3_u \frac{\partial M_2}{\partial M_3}$$

$$CTW3 = \frac{b}{\bar{c}} CBW1_u \frac{\partial M_3}{\partial M_1} + \frac{b}{\bar{c}} CBW2_u \frac{\partial M_3}{\partial M_2} + CTW3_u$$

where

$$b = 1.709 \text{ ft.}$$

$$\bar{c} = 0.5935 \text{ ft.}$$

the subscript u denotes the uncorrected coefficient values.

The interaction corrections were defined as follows:

$\frac{\partial M_1}{\partial M_1}$	$\frac{\partial M_1}{\partial M_2}$	$\frac{\partial M_1}{\partial M_3}$
(+) 525.0748	(+) 0	(+) -0.010466
(-) 519.3585	(-) 0	(-) -0.011015

DATA REDUCTION (Continued)

$\frac{\partial M_2}{\partial M_1}$	$\frac{\partial M_2}{\partial M_2}$	$\frac{\partial M_2}{\partial M_3}$
(+) 0	(+) 517.1286	(+) 0.029019
(-) 0	(-) 513.8207	(-) 0.029664
$\frac{\partial M_3}{\partial M_1}$	$\frac{\partial M_3}{\partial M_2}$	$\frac{\partial M_3}{\partial M_3}$
(+) -0.012681	(+) 0.019973	(+) 916.415
(-) -0.032586	(-) 0.052287	(-) 909.450

The plus and minus signs in parenthesis indicate the appropriate interaction correction term to be used based on the sign of the uncorrected coefficients (i.e., plus with positive coefficients and minus with negative coefficients).

The wing bending and torsional bending coefficients were calculated using the following equations:

$$CBW-R = CBW1 \left(\frac{d}{am} \right) + CBW2 \left(1 - \frac{d}{am} \right)$$

$$CTW-R = (CBW1 - CBW2) \left(\frac{em}{am} \right) \left(\frac{b}{c} \right) + CTW3$$

where:

d = distance from M_2 to exposed wing chord (0.9448 in.)

am = distance from M_1 to M_2 (0.6737 in.)

em = distance from M_3 to torsion reference point (0.7050 in.)

DATA REDUCTION (Concluded)

Base pressures were reduced to coefficient form. Base pressures were integrated to compute base axial force using the following model areas:

$$Ab_1 = 0.0106 \text{ ft}^2$$

$$Ab_2 = 0.0201 \text{ ft}^2$$

$$Ab_3 = 0.0101 \text{ ft}^2$$

$$Ab_4 = 0.0173 \text{ ft}^2$$

$$Ab_5 = 0.0027 \text{ ft}^2$$

$$Ab_6 = 0.0414 \text{ ft}^2$$

$$Ab_7 = 0.0490 \text{ ft}^2$$

$$Ab_8 = 0.03765 \text{ ft}^2$$

$$Ab_9 = 0.03765 \text{ ft}^2$$

$$Ab_{10} = 0.0753 \text{ ft}^2$$

$$Ab_{SC} = 0.03409 \text{ ft}^2$$

- * These reference dimensions appear on all plots and tabulated data; however, the data was reduced using the reference dimensions above as indicated.

TABLE I.

[illegible]

TABLE II

TEST: IA 110

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 11 JULY 1974

DATA SET IDENTIFIER		CONFIGURATION	SCMD.		PARAMETERS/VALUES		NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)						TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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RE1001		ϕ, T_0, S, P, P_0	A	0	8/-4	2.5	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

TABLE II (Concluded)

TEST: TA110		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 11 JULY 1974			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.	PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)					TEST RUN NUMBERS			
			α	β	γ		1.55	1.8	2.0	2.2	2.5				
RE1019	φ, T, z, S, P, P _g	A	0	0	1.8	2.5	0	0	21						
20		O	A	0	1.8	2.5	0	0						26	
21		↓	↓	↓	↓	↓	↓	↓			24				
22		↓	↓	↓	↓	↓	↓	↓	22						
23		A	0	0	2.0	2.5	0	0	27						
24		↓	↓	↓	2.0	2.5	0	0			28				
25		↓	↓	↓	2.4	2.5	0	0			30				
26		↓	↓	↓	2.4	2.5	0	0	29						
27		↓	↓	↓	2.4	2.5	0	0			32				
28		↓	↓	↓	2.4	2.5	0	0	31						

TABLE III. - MODEL DIMENSIONAL DATA.

MODEL COMPONENT: Attach Structure AT₂GENERAL DESCRIPTION: Forward Orbiter/ET Attach Structure (2 member structure)

Model Scale: 0.015

DRAWING NO. VL72-000088D

DIMENSION:	MEMBER	FULL SCALE	MODEL SCALE
	#1		
	X _O	<u>391</u>	<u>5.865</u>
	Y _O	<u>0</u>	<u>0</u>
	Z _O	<u>LWR ML</u>	<u>LWR ML</u>
	X _T	<u>1132</u>	<u>16.980</u>
	Y _T	<u>44</u>	<u>0.66</u>
	Z _T	<u>562</u>	<u>8.43</u>
	#2		
	X _O	<u>391</u>	<u>5.865</u>
	Y _O	<u>0</u>	<u>0</u>
	Z _O	<u>LWR ML</u>	<u>LWR ML</u>
	X _T	<u>1132</u>	<u>16.980</u>
	Y _T	<u>-44</u>	<u>-.66</u>
	Z _T	<u>562</u>	<u>8.43</u>

Diameter of Members: TBD

TABLE III. - Continued.

MODEL COMPONENT: Attach Structure AT₆GENERAL DESCRIPTION: Left rear Orbiter/ET attach structure (2 member structure)

Model Scale: 0.015

DRAWING NO. VL78-000050

ENSION:	MEMBER		FULL SCALE	MODEL SCALE
	#1	X _O	<u>1303</u>	<u>19.545</u>
		Y _O	<u>-96</u>	<u>-1.440</u>
		Z _O	<u>258</u>	<u>3.870</u>
		X _T	<u>1859</u>	<u>27.885</u>
		Y _T	<u>115</u>	<u>1.725</u>
		Z _T	<u>510</u>	<u>7.650</u>
	#2	X _O	<u>1317</u>	<u>19.755</u>
		Y _O	<u>-96</u>	<u>-1.440</u>
		Z _O	<u>258</u>	<u>3.870</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>115</u>	<u>1.725</u>
		Z _T	<u>510</u>	<u>7.650</u>

Diameter of Members: TBD

TABLE III. - Continued.

MODEL COMPONENT: Attach Structure AT₇GENERAL DESCRIPTION: Right rear orbiter/ET attach structure (3 member structure)

Model Scale: 0.015

MODEL NO. VL7B-000050

DIMENSION:	MEMBER		FULL SCALE	MODEL SCALE
	#1	X _O	<u>1313</u>	<u>19.695</u>
		Y _O	<u>+96</u>	<u>1.44</u>
		Z _O	<u>258</u>	<u>3.870</u>
		X _T	<u>1809</u>	<u>27.885</u>
		Y _T	<u>-115</u>	<u>-1.725</u>
		Z _T	<u>-510</u>	<u>7.650</u>
	#2	X _O	<u>1317</u>	<u>19.755</u>
		Y _O	<u>+96</u>	<u>1.440</u>
		Z _O	<u>258</u>	<u>3.870</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>-115</u>	<u>-1.725</u>
		Z _T	<u>510</u>	<u>7.650</u>
	#3	X _O	<u>1317</u>	<u>19.755</u>
		Y _O	<u>96</u>	<u>1.440</u>
		Z _O	<u>258</u>	<u>3.870</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>0</u>	<u>0</u>
		Z _T	<u>566</u>	<u>8.490</u>

Diameter of Members: TBD

TABLE III. - Continued.

MODEL COMPONENT: Attach Structure ATa

GENERAL DESCRIPTION: Forward SRB/ET attach structure

Model Scale: 0.015

DRAWING NO: VL77-000051A

DIMENSION:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
X _B	<u>404</u>	<u>6.060</u>
Y _B	<u>± 177</u>	<u>± 2.655</u>
Z _B	<u>0</u>	<u>0</u>
X _T	<u>947</u>	<u>14.205</u>
Y _T	<u>± 167</u>	<u>± 2.505</u>
Z _T	<u>400</u>	<u>6.000</u>

TABLE III. - Continued.

MODEL COMPONENT: Attach Structure AT9GENERAL DESCRIPTION: Aft SRB/ET attach structure (3 member structure)

Model Scale: 0.015

DRAWING NO: VL72-000106

DIMENSIONS:	MEMBER		FULL SCALE	MODEL SCALE
	#1	X _B	<u>1515</u>	<u>22.725</u>
		Y _B	<u>± 56</u>	<u>± .840</u>
		Z _B	<u>50</u>	<u>.750</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>± 158</u>	<u>2.370</u>
		Z _T	<u>450</u>	<u>6.75</u>
	#2	X _B	<u>1515</u>	<u>22.725</u>
		Y _B	<u>± 76</u>	<u>± 1.140</u>
		Z _B	<u>18</u>	<u>.270</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>160</u>	<u>2.400</u>
		Z _T	<u>445</u>	<u>6.675</u>
	#3	X _B	<u>1515</u>	<u>22.725</u>
		Y _B	<u>± 56</u>	<u>± .840</u>
		Z _B	<u>- 50</u>	<u>- .750</u>
		X _T	<u>2058</u>	<u>30.870</u>
		Y _T	<u>± 158</u>	<u>± 2.370</u>
		Z _T	<u>350</u>	<u>5.250</u>

Diameter of Members: TBD

*REVISED 4/24/74

TABLE II. - Continued.

MODEL COMPONENT : BODY - B₂₆

GENERAL DESCRIPTION Configuration 140A/B Orbiter Fuselage

NOTE: B₂₆ is identical to B₂₄ except underside of fuselage has been
refaired to accept W₁₁₆

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER VL70-0001433, -000200, 000205, -006089, -000145,
-000140A, 000140B

DIMENSIONS :	FULL SCALE	MODEL SCALE
*Length (OML: Fwd Sta. X ₀ =235)-In.	1293.3	19.400
*Length (IML: Fwd Sta. X ₀ =238)-In.	1290.3	19.350
* Max Width (@ X = 1528.3) - In.	264.0	3.960
Max Depth (@ X ₀ = 1464) - In.	250.0	3.750
Fineness Ratio		
Area - Ft ²		
Max. Cross-Sectional	340.88	0.077
Planform		
Wetted		
Base		

*REVISED 4/24/74

TABLE III. - Continued.

MODEL COMPONENT : CANOPY - C₉

GENERAL DESCRIPTION : Configuration 3A, Canopy used with Fuselage

B₂₆

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER VL70-000143A

DIMENSIONS :	FULL SCALE	MODEL SCALE
*Length ($X_0 = 434.643$ to 578)	<u>143.357</u>	<u>2.150</u>
Max Width (@ $X_0 = 513.127$)	<u>152.412</u>	<u>2.286</u>
Max Depth (@ $X_0 = 485.0$)	<u>25.000</u>	<u>0.375</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: SLOTTED ELEVON (6-INCH GAP) - E₄₃GENERAL DESCRIPTION: Configuration A/B Orbiter elevonNOTE: E₄₃ is a slotted version of E₂₆. Data are for one side.MODEL SCALE: 0.015DRAWING NUMBER: VL70-000200, -006089, -006092

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - Ft ²	<u>210.0</u>	<u>0.0473</u>
Span (equivalent) , In.	<u>349.2</u>	<u>5.238</u>
Inb'd equivalent chord , In.	<u>118.004</u>	<u>1.770</u>
Outb'd equivalent chord , In.	<u>55.192</u>	<u>0.828</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Trailing Edge	<u>- 10.056</u>	<u>- 10.056</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Product of Area and \bar{c}) Ft ³	<u>1587.25</u>	<u>0.00536</u>
• Mean Aerodynamic Chord, (\bar{c}), In.	<u>90.7</u>	<u>1.3605</u>

TABLE III. - Continued.

MODEL COMPONENT : BODY FLAP - F₀

GENERAL DESCRIPTION : Configuration 140A/B Orbiter Body Flap.

Hingeline located at X₀ = 1528.3, Z₀ = 284.3

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147

DRAWING NUMBER: VI-70-000140A, -000145

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (X ₀ =1520 to X ₀ =1613), In.	<u>93.000</u>	<u>1.395</u>
Max Width , In.	<u>262.000</u>	<u>3.930</u>
Max Depth (X ₀ = 1520), In.	<u>23.000</u>	<u>0.345</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u>150.5250</u>	<u>0.0339</u>
Wetted	<u>141.84722</u>	<u>0.00947</u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT Feed line FL1

DESCRIPTION: LOX feed line between ET and orbiter

MODEL SCALE: 0.015

DRAWING NO: VL78-000050

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
E at: X_T	<u>2063.5</u>	<u>30.953</u>
Y_T	<u>-70</u>	<u>-1.053</u>
X_0	<u>1330.5</u>	<u>19.958</u>
	<u>-70</u>	<u>-1.053</u>
Diameter	<u>18.5</u>	<u>.278</u>

TABLE III. - Continued.

MODEL COMPONENT: Feed line FL₂

DESCRIPTION: LH₂ feed line between ET and orbiter

MODEL SCALE: 0.015

DRAWING NO.: VL7B-000050

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
\bar{C} at X_T	<u>2063.5</u>	<u>30.953</u>
Y_T	<u>70</u>	<u>1.053</u>
X_O	<u>1330.5</u>	<u>19.958</u>
Y_O	<u>70</u>	<u>1.053</u>
Diameter	<u>18.5</u>	<u>.279</u>

TABLE III. - Continued.

MODEL COMPONENT: Fairing FR6

GENERAL DESCRIPTION: Cross Member between Aft ET/Orbiter attach
Structures.

MODEL SCALE: 0.015

DRAWING NUMBER: VL78-000062B, VL78-000050

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Leading Edge at X_T	<u>2035.50</u>	<u>25.533</u>
Length	<u>15.00</u>	<u>0.225</u>
Width	<u>193.00</u>	<u>2.895</u>

TABLE III. - Continued.

MODEL COMPONENT : OMS/RCS PODS - M₇

GENERAL DESCRIPTION : Configuration 140A/B Orbiter OMS/RCS Pods

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER VL70-000145

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta $X_0=1233.0$)-In.	<u>327.000</u>	<u>4.905</u>
Max Width (@ $X_0 = 1450.0$) - In.	<u>94.5</u>	<u>1.418</u>
Max Depth (@ $X_0 = 1493.0$) - In.	<u>109.000</u>	<u>1.635</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT : OMS POD - M₁₆

GENERAL DESCRIPTION : Configuration 140 C/D Orbiter OMS pod - short
pod.

MODEL SCALE: 0.015

DRAWING NUMBER VI70-008401; VI70-008410

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta. $X_n = 1310.5$), In.	<u>258.50</u>	<u>3.878</u>
Max Width (@ $X_0 = 1511$), In.	<u>136.8</u>	<u>2.052</u>
Max Depth (@ $X_0 = 1511$), In.	<u>74.70</u>	<u>1.121</u>
Fineness Ratio	<u>2.484</u>	<u>2.484</u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>58.864</u>	<u>0.0132</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: MPS NOZZLES - N₂₄GENERAL DESCRIPTION: Configuration 1/40A/B Orbiter MPS nozzles.MODEL SCALE: 0.0150MODEL DRAWING: 3S-A00147, Rel. 12DRAWING NUMBER: VL70-005030A, VL70-000140A

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane	<u>157.0</u>	<u>2.355</u>
Throat to Exit Plane	<u>99.2</u>	<u>1.488</u>
Diameter - In.		
Exit	<u>91.000</u>	<u>1.410</u>
Throat	<u> </u>	<u> </u>
Inlet	<u> </u>	<u> </u>
Area - ft ²		
Exit	<u>45.166</u>	<u>0.0102</u>
Throat	<u> </u>	<u> </u>
Gimbal Point (Station) - In.		
Upper Nozzle		
X ₀	<u>1445.0</u>	<u>21.675</u>
Y ₀	<u>0</u>	<u>0</u>
Z ₀	<u>443</u>	<u>6.645</u>
Lower Nozzles		
X ₀	<u>1468.170</u>	<u>22.023</u>
Y ₀	<u>± 53.000</u>	<u>± 0.795</u>
Z ₀	<u>342.640</u>	<u>5.140</u>
Null Position - Deg.		
Upper Nozzle		
Pitch	<u>16</u>	<u>10</u>
Yaw	<u>0</u>	<u>0</u>
Lower Nozzle		
Pitch	<u>10</u>	<u>10</u>
Yaw	<u>3.5</u>	<u>3.5</u>

TABLE III. - Continued.

MODEL COMPONENT: NOZZLES - N₁GENERAL DESCRIPTION: Configuration A BSRM nozzles.MODEL SCALE: 0.0150DRAWING NUMBER: VL72-000088E, VL77-000036A

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane	<u>141.3</u>	<u>2.120</u>
Throat to Exit Plane	<u> </u>	<u> </u>
Diameter - In.		
Exit	<u>141.3</u>	<u>2.120</u>
Throat	<u> </u>	<u> </u>
Inlet	<u> </u>	<u> </u>
Area - ft ²		
Exit	<u>108.900</u>	<u>0.0245</u>
Throat	<u> </u>	<u> </u>
Gimbal Point (Station) - In.		
X	<u>1796.15</u>	<u>26.942</u>
Y	<u>± 243.0</u>	<u>± 3.645</u>
Z	<u>400.0</u>	<u>6.0</u>
Lower Nozzles		
X	<u> </u>	<u> </u>
Y	<u> </u>	<u> </u>
Z	<u> </u>	<u> </u>
Null Position - Deg.		
Pitch	<u>0</u>	<u>0</u>
Yaw	<u>0</u>	<u>0</u>
FS of Nozzle Exit Plane (X _T), In.	<u>2484.0</u>	<u>37.260</u>
Lower Nozzle		
Pitch	<u> </u>	<u> </u>
Yaw	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: SRB Protuberance PS₁

DESCRIPTION: Electrical tunnel fairing on top of each SRB

MODEL SCALE: 0.015

DRAWING NO: None

DIMENSION: (Data for 1 of 2)

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at X_B	<u>1.67</u>	<u>7.001</u>
C of tunnel Y_B	<u>0</u>	<u>0</u>
Trailing edge at X_B	<u>1820</u>	<u>27.30</u>
Height	<u>3</u>	<u>.045</u>
Width	<u>6</u>	<u>.090</u>
\angle_{LE} , deg.	<u>72</u>	<u>72</u>

TABLE III. - Continued.

MODEL COMPONENT: SRB Protuberance PS₂

DESCRIPTION: SRB/ET attach ring

MODEL SCALE: 0.015

DRAWING NO.: VL77-000036A

DIMENSIONS: (Data for 1 of 2)

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
E at X ₃	<u>1515</u>	<u>22.725</u>
Width	<u>10</u>	<u>.15</u>
Height	<u>10</u>	<u>.15</u>

TABLE III. - Continued.

MODEL COMPONENT: SRB Protuberance PS₂

DESCRIPTION: Separation rocket fairing on each SRB nosele shroud located
30° inboard from top centerline.

MODEL SCALE: 0.015

DRAWING NO.: VL77-000036A

DIMENSIONS: (Data for 1 of 2)

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at X _B	<u>1796</u>	<u>26.940</u>
Trailing edge at X _B	<u>1889</u>	<u>28.335</u>

Radial location is 30° inboard from top centerline.

TABLE III. - Continued.

MODEL COMPONENT: ET Protuberance PT₁DESCRIPTION: LOX Vent Line Fairing on Tank T12 NoseMODEL SCALE: .015DRAWING NO. VL78-000031A

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
DIMENSIONS: Leading edge at X_T	<u>321</u>	<u>4.815</u>
Y_T	<u>0</u>	<u>0</u>
Trailing edge at X_T	<u>947</u>	<u>14.205</u>
Y_T	<u>-70</u>	<u>1.053</u>

TABLE III. - Continued.

MODEL COMPONENT: ET Protuberance PT2DESCRIPTION: LOX feed lines on vehicle A tank secured to tank by brackets
with 50-inch spacingMODEL SCALE: 0.015DRAWING NO. VL78-000031A

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
DIMENSIONS: Leading edge at X_T	<u>947</u>	<u>14.205</u>
Y_T	<u>-70</u>	<u>-1.053</u>
Trailing edge at X_T	<u>1330</u>	<u>19.950</u>
Y_T	<u>-70</u>	<u>-1.053</u>
Bracket spacing from $X_T = 997$	<u>50</u>	<u>.85</u>

TABLE III. - Continued.

MODEL COMPONENT: ET Protuberance PT3DESCRIPTION: LH₂ feed line on vehicle 4 tank secured to tank by brackets
with 50-inch spacing.MODEL SCALE: 0.015DRAWING NO. VL78-000031A

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
DIMENSIONS: Leading edge at X_T	<u>947</u>	<u>14.205</u>
Y_T	<u>70</u>	<u>1.053</u>
Trailing edge at X_T	<u>1330</u>	<u>19.950</u>
Y_T	<u>70</u>	<u>1.053</u>
Bracket spacing from $X_T = 997$	<u>50</u>	<u>.85</u>

*REVISED 4/24/74

TABLE III. - Continued.

MODEL COMPONENT: RUDDER - R₅

GENERAL DESCRIPTION: 2A, 3, 3A and 140A/B Configurations

MODEL SCALE: 0.015

DRAWING NUMBER: VL70-000146A, VL70-000095, VL70-000139.

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
*Area- Ft ²	<u>100.15</u>	<u>0.0225</u>
Span (equivalent) - In	<u>201.0</u>	<u>3.015</u>
Inb'd equivalent chord - In.	<u>91.585</u>	<u>1.3738</u>
Outb'd equivalent chord - In.	<u>50.833</u>	<u>0.7625</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
* Area Moment (Product of area & \bar{c})-Ft ³	<u>610.92</u>	<u>0.002</u>
*Mean Aerodynamic Chord, In.	<u>73.2</u>	<u>1.098</u>

TABLE III. - Continued.

MODEL COMPONENT: BOOSTER SOLID ROCKET MOTOR - (S12)GENERAL DESCRIPTION: Configuration 3A, Data for (1) of (2) sides,
per Rockwell Lines VL77-000036AModel Scale = 0.015

DRAWING NUMBER

VL72-000088DVL77-000036ADIMENSION:FULL SCALEMODEL SCALE

Length (Includes Nozzle) - IN.	<u>1741.0</u>	<u>26.115</u>
Max Width (Tank Dia.) - IN.	<u>142.3</u>	<u>2.135</u>
Max Depth (Aft Shroud) - IN.	<u>192.0</u>	<u>2.880</u>
Finess Ratio	<u>9.06771</u>	<u>9.06771</u>
Area - FT ²		
Max Cross-Sectional	<u>201.06193</u>	<u>0.0452</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
WP of BSRM Centerline (Z _T) - IN.	<u>400</u>	<u>6.000</u>
FS of BSRM Nose (X _T) - IN.	<u>743</u>	<u>11.145</u>

TABLE III. - Continued.

MODEL COMPONENT: EXTERNAL TANK - (T12)GENERAL DESCRIPTION: External Oxygen Hydrogen Tank.NOTE: Identical to T11 with external fuel lines addedModel Scale = 0.015

DRAWING NUMBER

VL78-000031AVL78-000041ADIMENSION:FULL SCALEMODEL SCALELength - IN. (Nose @ $X_T = 309$)186527.975

Max Width (Dia) - IN.

3244.86

Max Depth

Fineness Ratio

5.756175.75617Area - FT²

Max Cross-Sectional

572.5550.1288

Planform

Wetted

Base

WP of Tank Centerline (Z_T) - IN.400.06.000ORIGINAL PAGE IS
OF POOR QUALITY

*REVISED 4/24/74

TABLE III. - Continued.

MODEL COMPONENT: VERTICAL - V₈

GENERAL DESCRIPTION: Configuration 140A/B Orbiter Vertical Tail

MODEL SCALE: 0.015

MODEL DRAWING: SS-A00148, RELEASE 6

DRAWING NUMBER: VL70-000146A

DIMENSIONS:

FULL SCALE

MODEL SCALE

TOTAL DATA

Area (Theo) - Ft²

Planform

413.253

0.093

Span (Theo) - In.

315.720

4.736

Aspect Ratio

1.675

1.675

Rate of Taper

0.507

0.507

Taper Ratio

0.404

0.404

Sweep-Back Angles, Degrees.

Leading Edge

45.000

45.000

* Trailing Edge

26.2

26.2

0.25 Element Line

41.130

41.130

Chords:

Root (Theo) WP

268.500

4.028

Tip (Theo) WP

108.470

1.627

MAC

199.808

2.997

Fus. Sta. of .25 MAC

1463.50

21.953

W.P. of .25 MAC

635.522

9.533

B.L. of .25 MAC

0.00

0.00

Airfoil Section

Leading Wedge Angle - Deg.

10.00

10.00

Trailing Wedge Angle - Deg.

14.920

14.920

Leading Edge Radius

2.00

0.030

Void Area

13.17

0.003

Blanketed Area

0.00

0.00

*REVISED 4/24/74

TABLE III. - Concluded.

MODEL COMPONENT: WING-W₁₁₆

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to W₁₁₄, except airfoil thickness. Dihedral angle is along trailing edge of wing.

MODEL SCALE: 0.015

TEST NO.

DWG. NO. VL70-000140A, -000200

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) Ft²

Planform

Span (Theo) In.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

*Fus. Sta. of .25 MAC

*W.P. of .25 MAC

*B.L. of .25 MAC

EXPOSED DATA

* Area (Theo) Ft²

* Span, (Theo) In. BP108

* Aspect Ratio

Taper Ratio

Chords

* Root BP108

Tip 1.00 $\frac{b}{2}$

* MAC

* Fus. Sta. of .25 MAC

* W.P. of .25 MAC

* B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)
XXXX-64

Root $\frac{b}{2}$ =

Tip $\frac{b}{2}$ =

Data for (1) of (2) Sides

Leading Edge Cuff

*Planform Area Ft²

* Leading Edge Intersects Fus M. L. @ Sta

* Leading Edge Intersects Wing @ Sta

2690.00

0.605

936.68

14.050

2.265

2.265

1.177

1.177

0.200

0.200

3.500

3.500

0.500

0.500

+ 3.000

+ 3.000

45.000

45.000

- 10.056

- 10.056

35.209

35.209

680.24

10.330

137.85

2.068

474.81

7.122

1136.82

17.052

200.58

4.359

182.13

2.732

1751.50

0.304

720.68

10.810

2.059

2.059

0.245

0.245

562.02

8.431

137.85

2.068

392.83

5.802

1185.09

17.700

294.30

4.415

251.77

3.777

0.113

0.113

0.12

0.12

113.18

0.025

500.0

7.50

1024.00

15.36

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

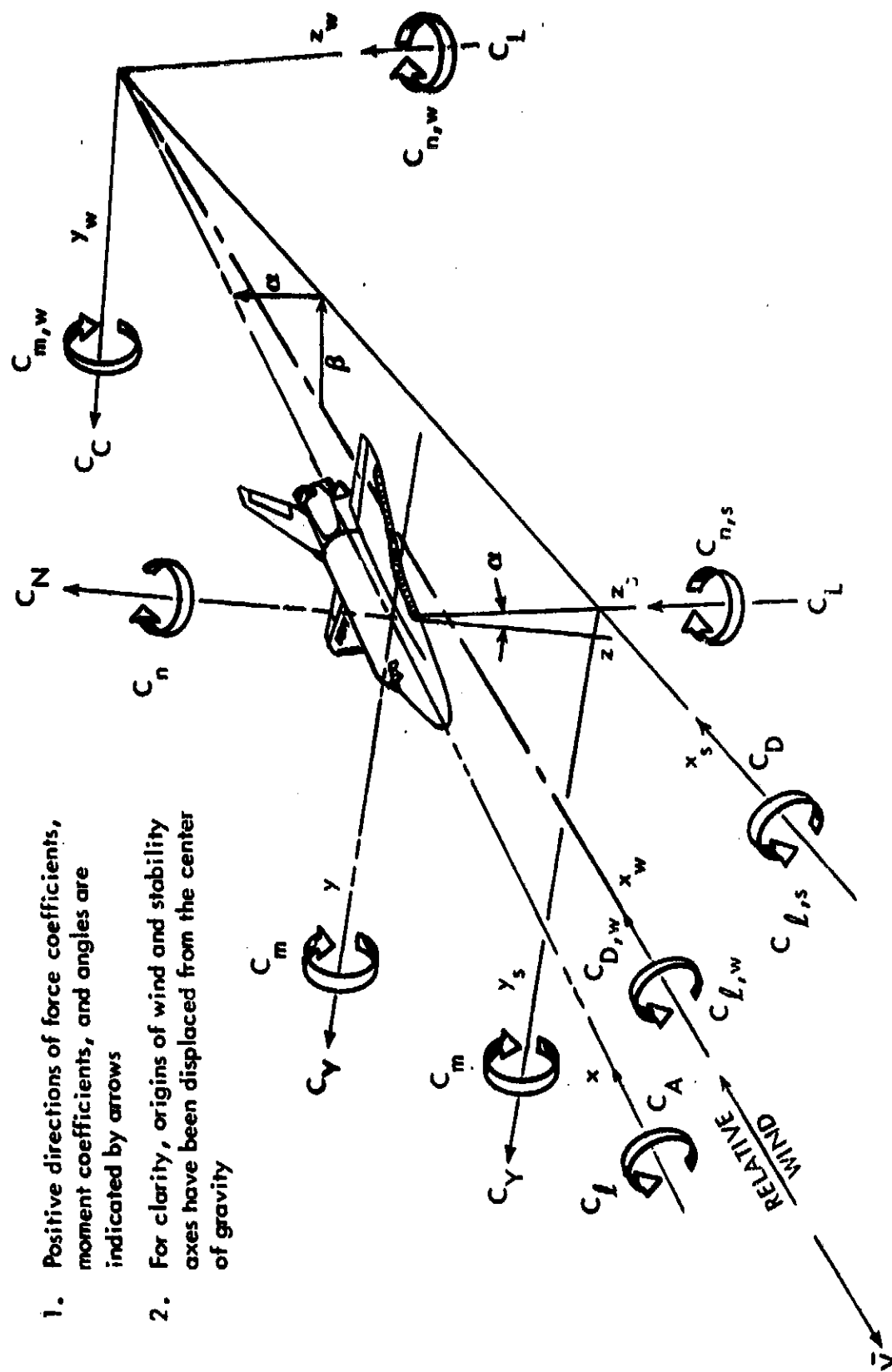
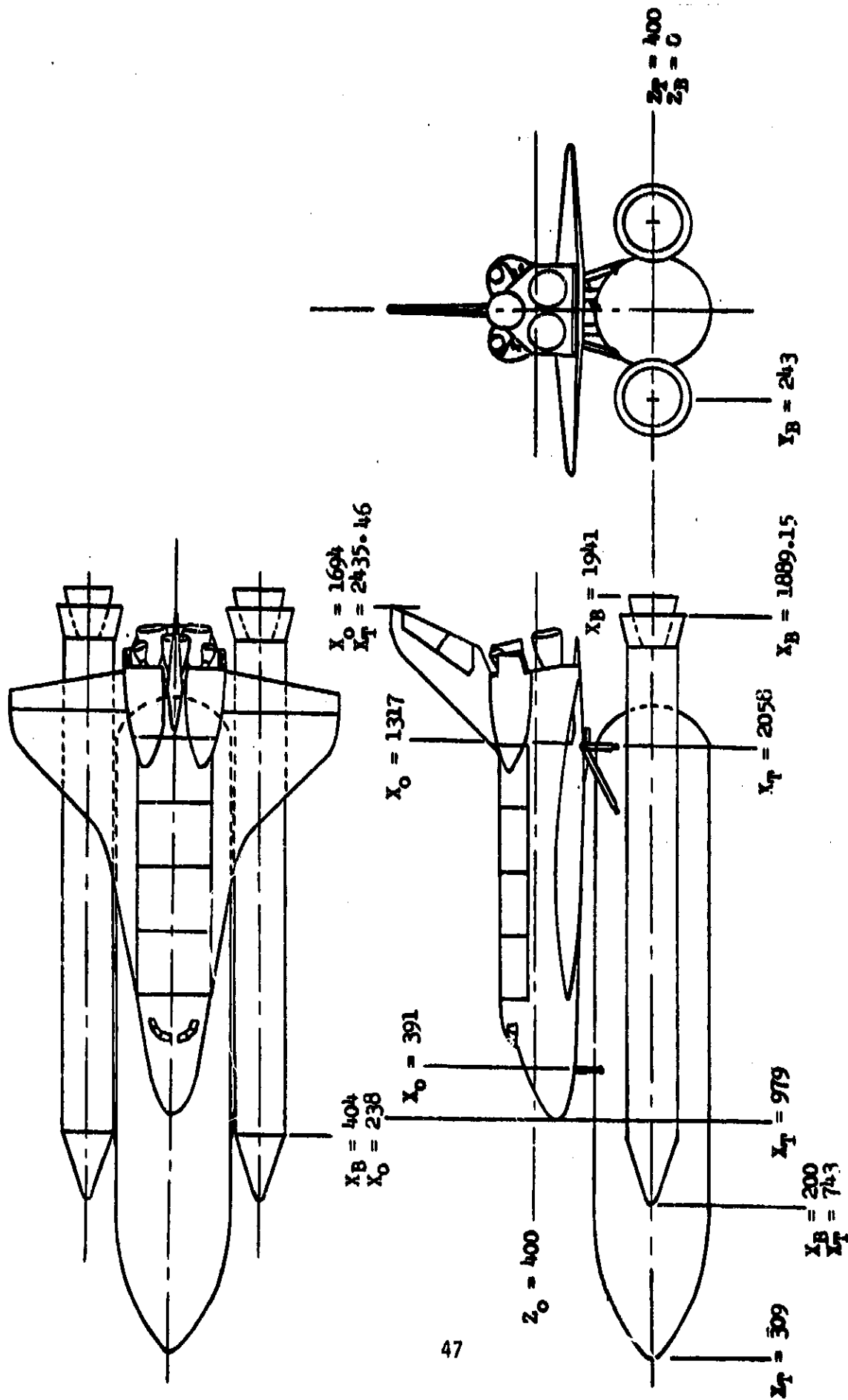
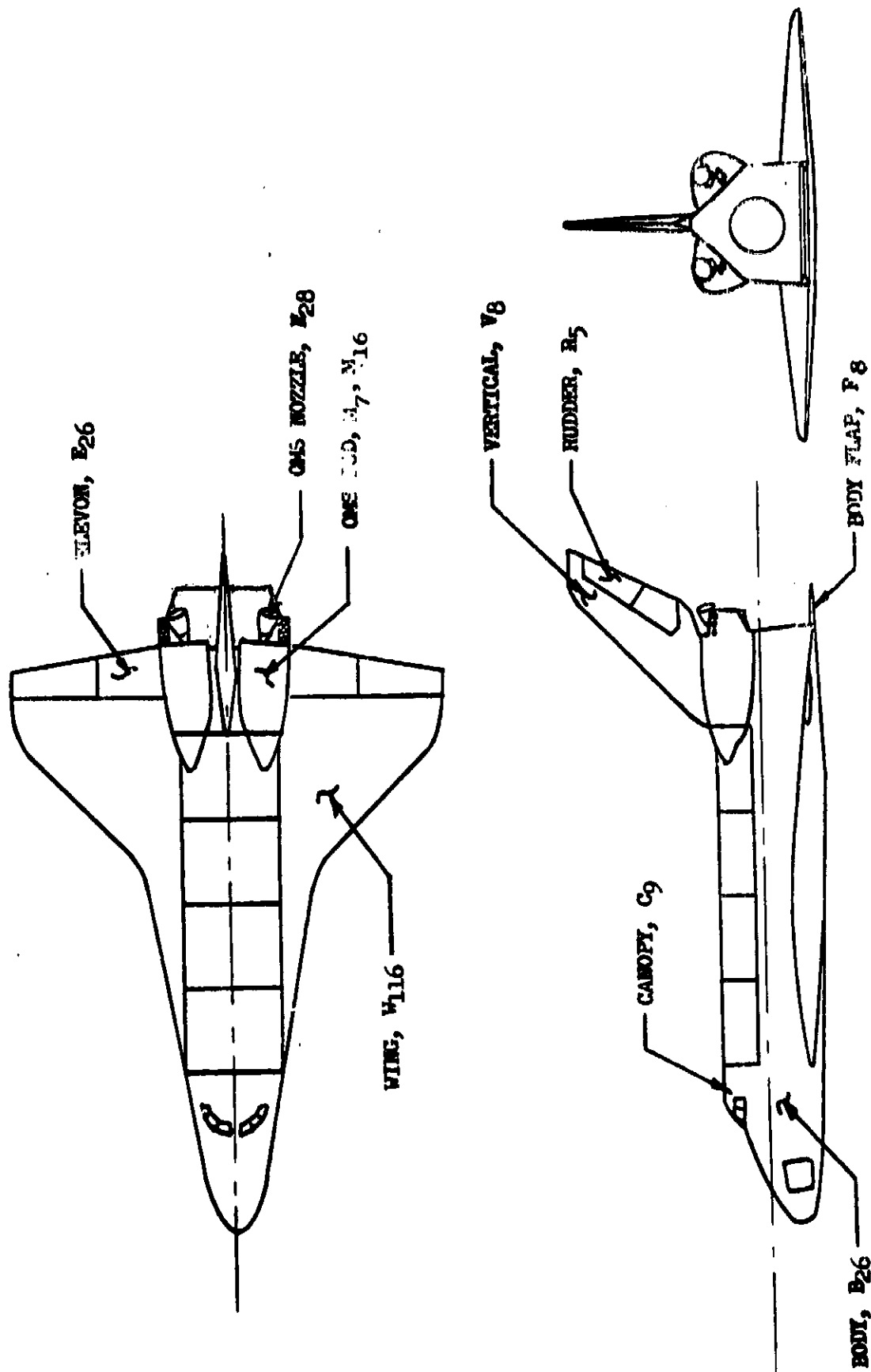


Figure 1. Axis systems.



a. Mated Vehicle

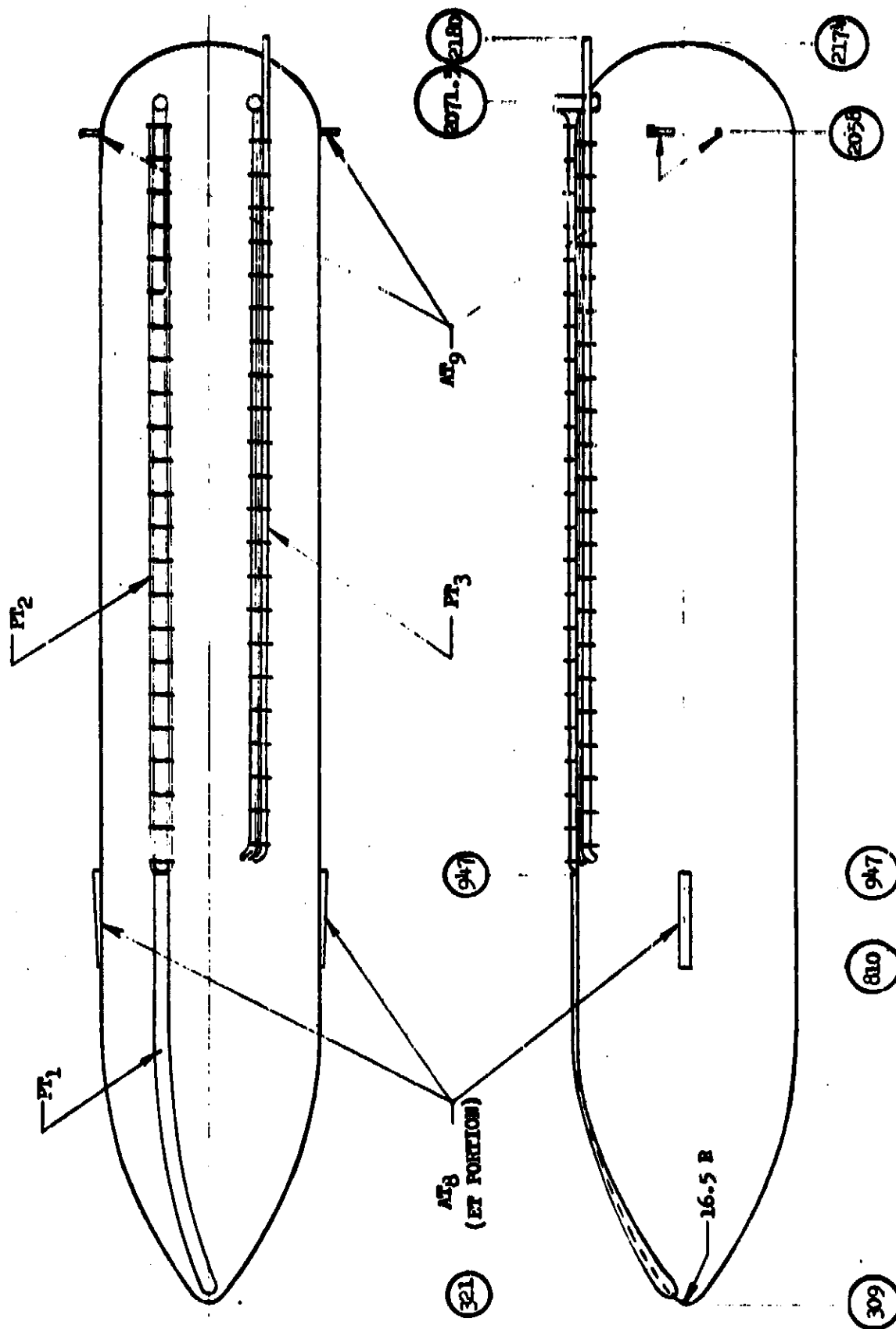
Figure 2. - Model sketches.



Orbiter Three View

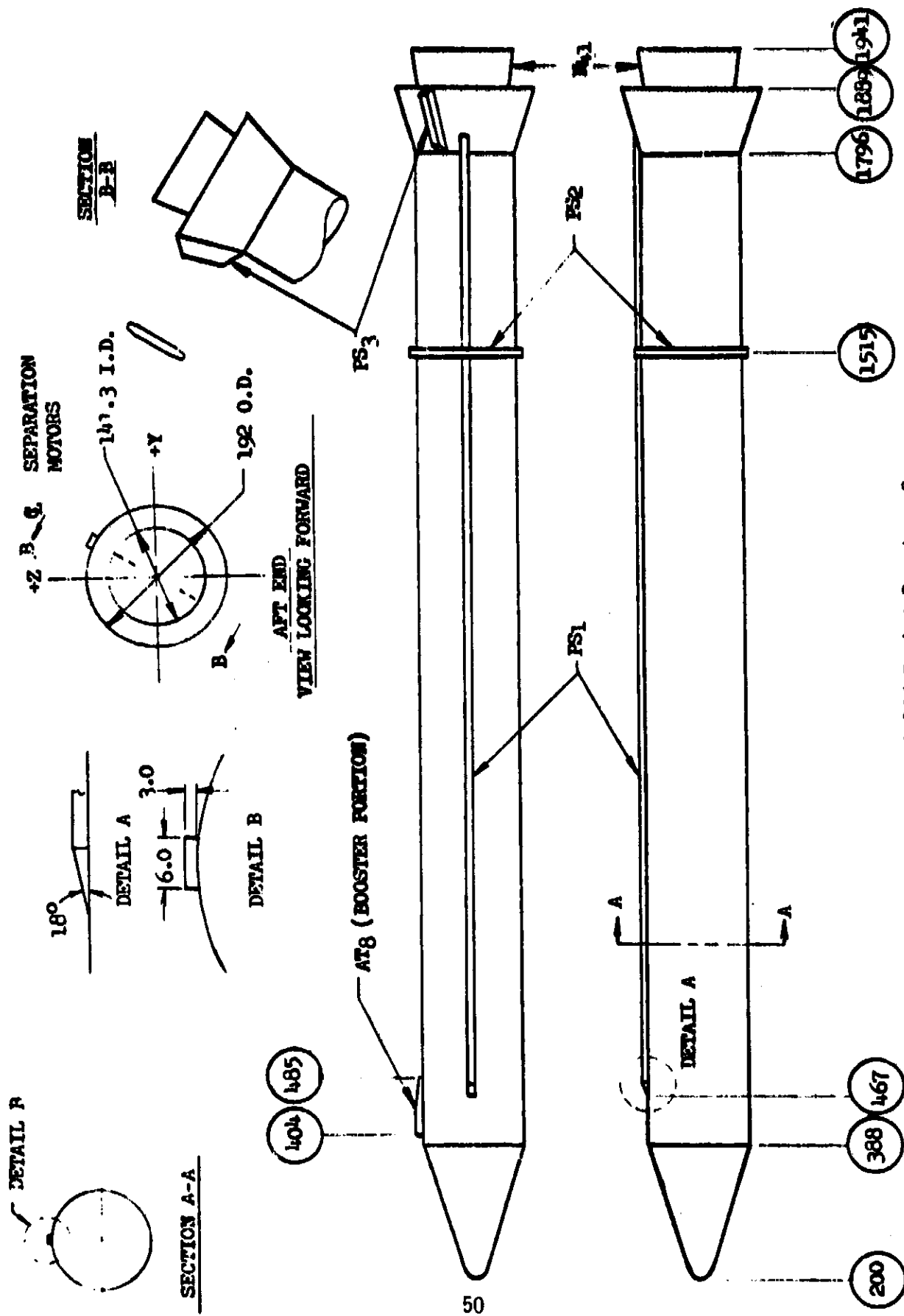
b. Orbiter

Figure 2. - Continued.



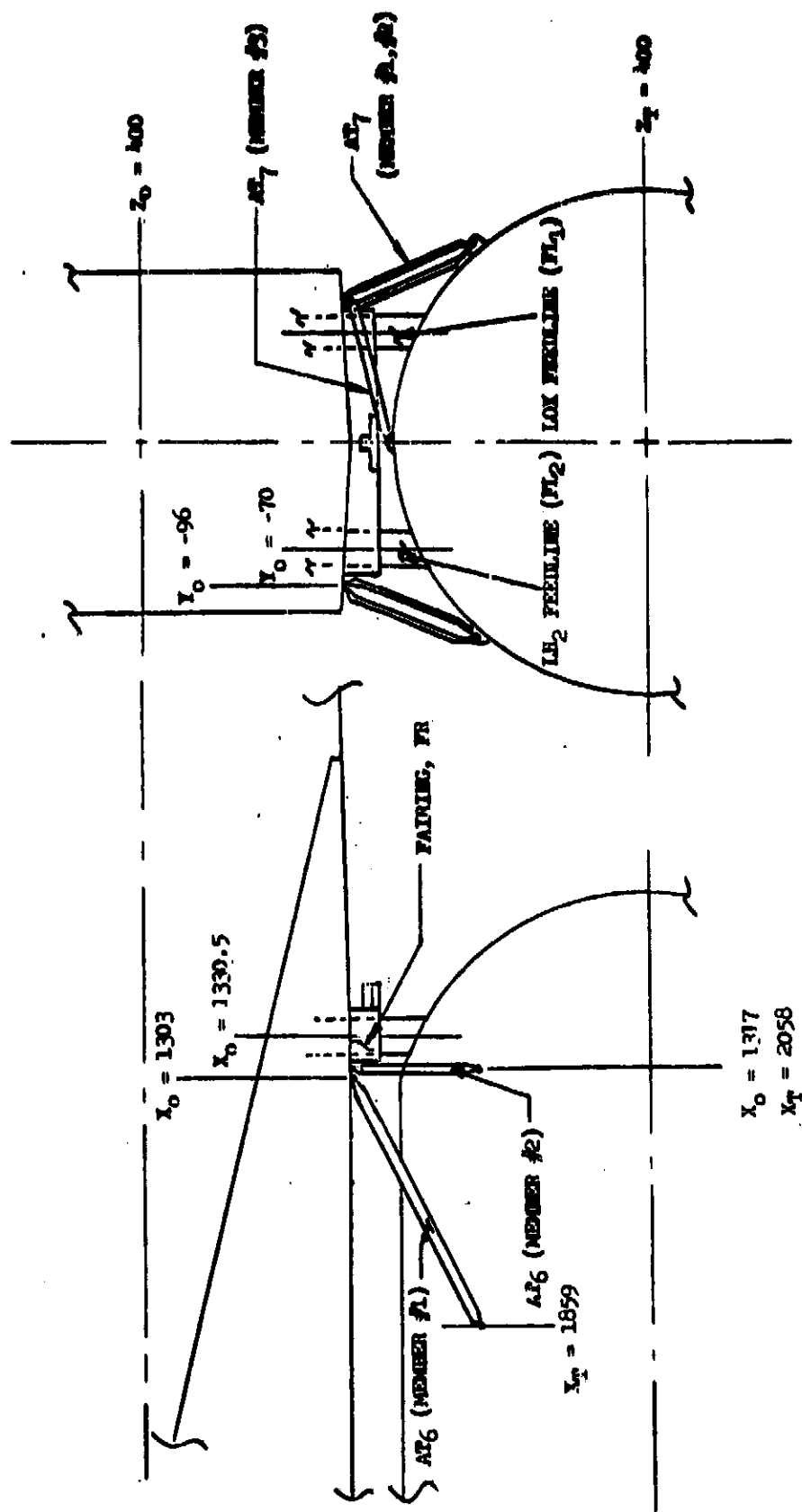
c. External Tank, T₁₂

Figure 2. - Continued.



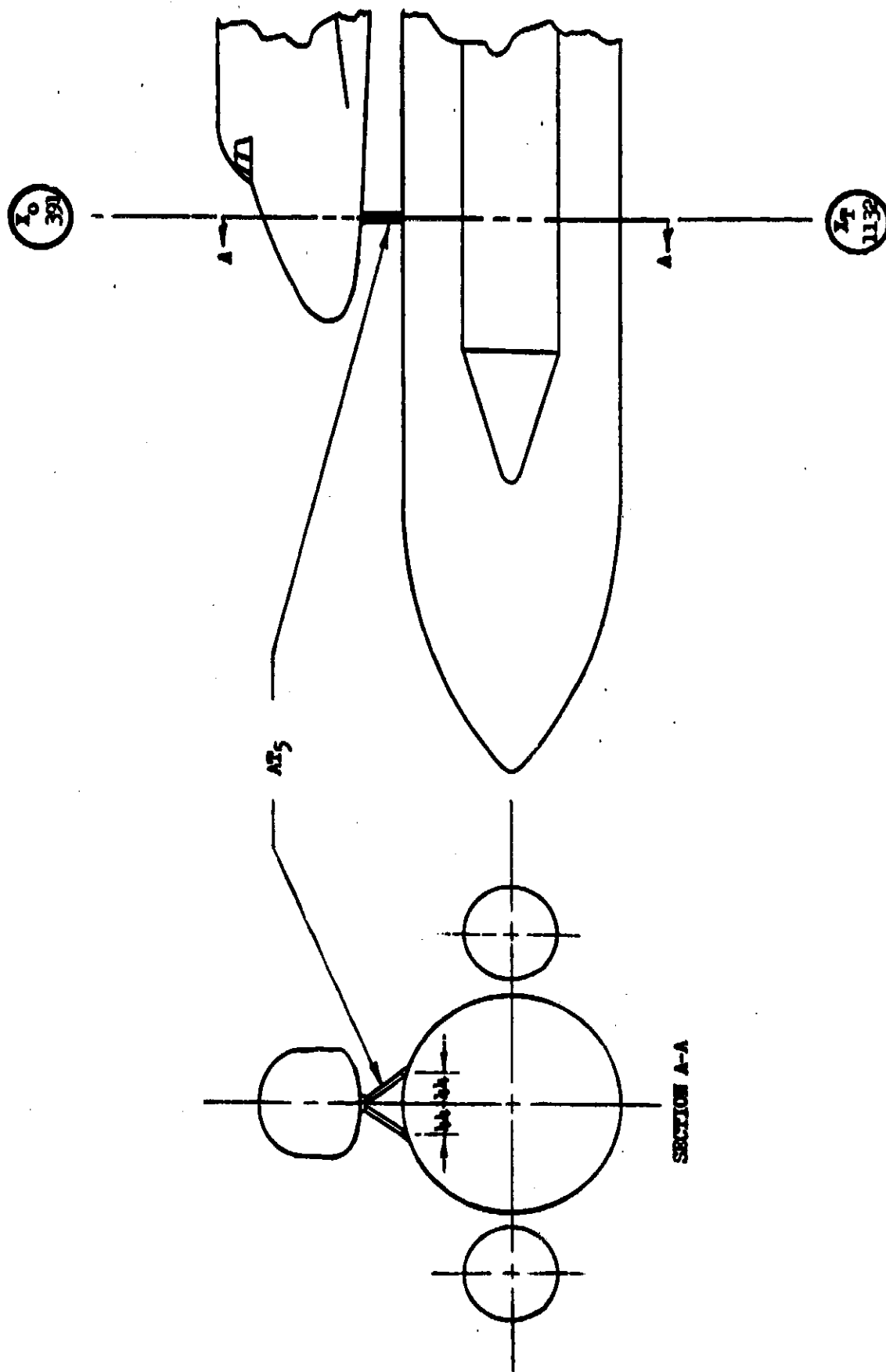
d. Solid Rocket Booster, S₁₂

Figure 2. - Continued.



e. Aft Orbiter/ET Attach Hardware

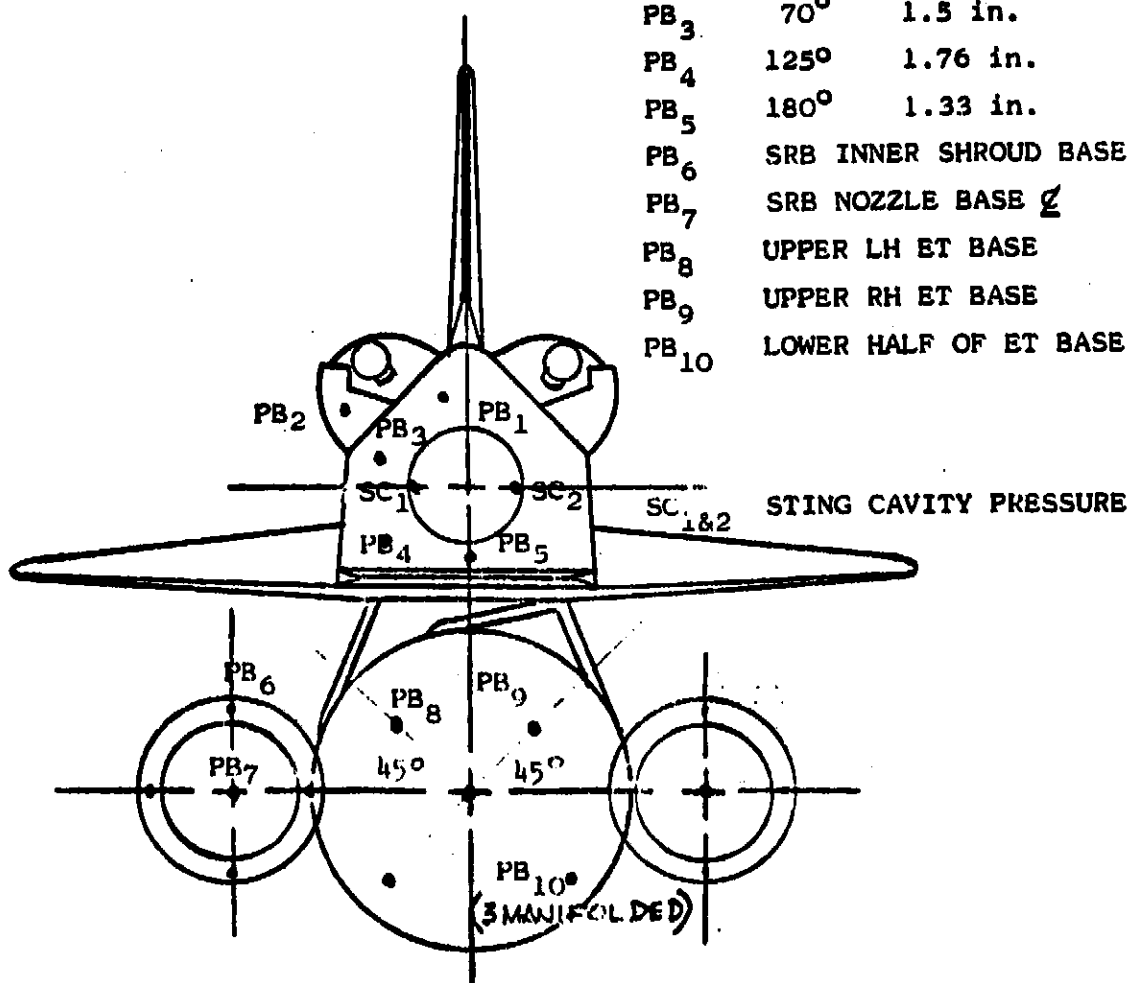
Figure 2. - Continued.



f. Front Orbiter/ET Attach Structure, AT₅

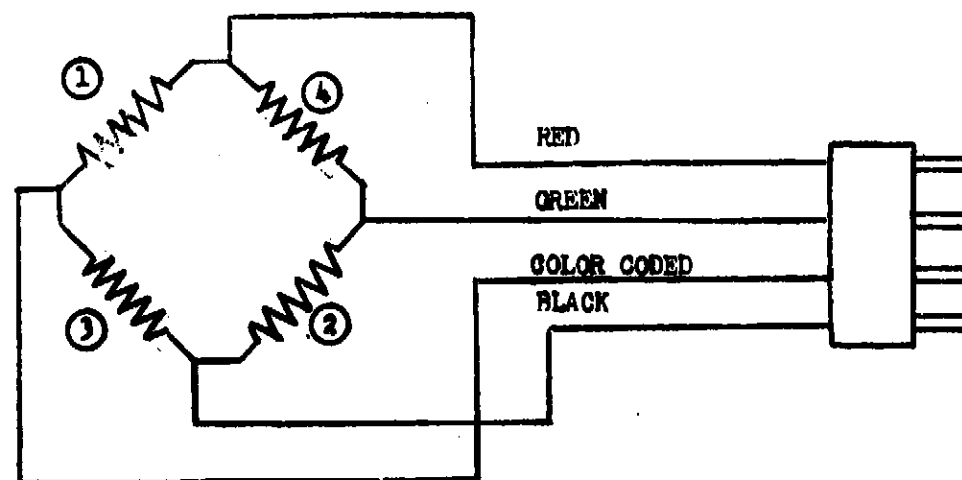
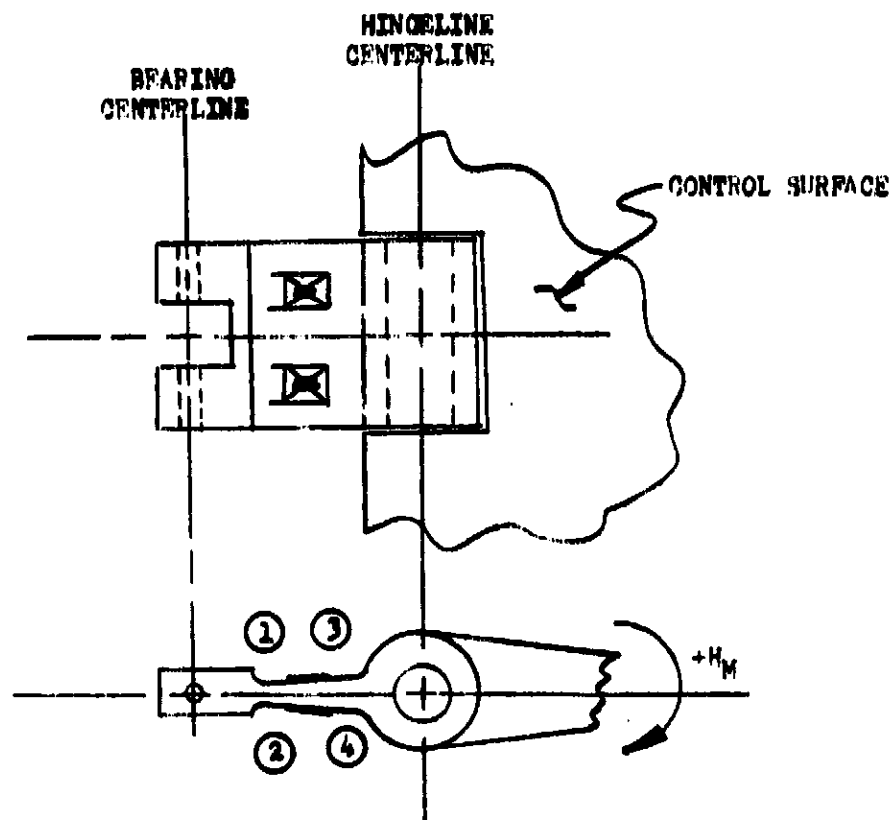
Figure 2. - Continued.

<u>TAP</u>	<u>Q</u>	<u>R</u>
PB ₁	20°	1.60 in.
PB ₂	57°	2.10 in.
PB ₃	70°	1.5 in.
PB ₄	125°	1.76 in.
PB ₅	180°	1.33 in.
PB ₆	SRB INNER SHROUD BASE	
PB ₇	SRB NOZZLE BASE	
PB ₈	UPPER LH ET BASE	
PB ₉	UPPER RH ET BASE	
PB ₁₀	LOWER HALF OF ET BASE	



g. Model Base and Sting Cavity Pressures

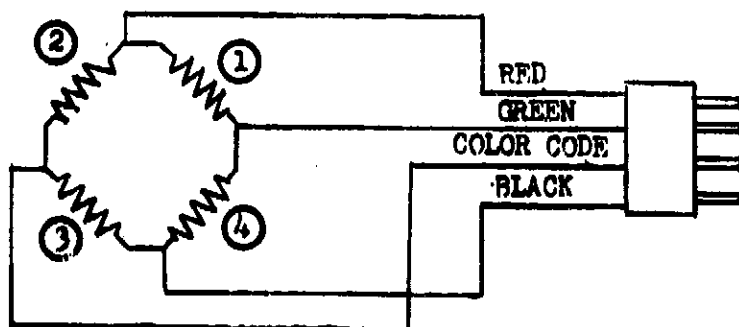
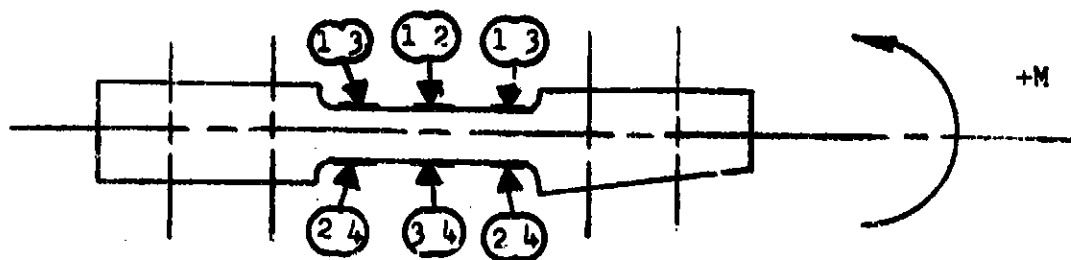
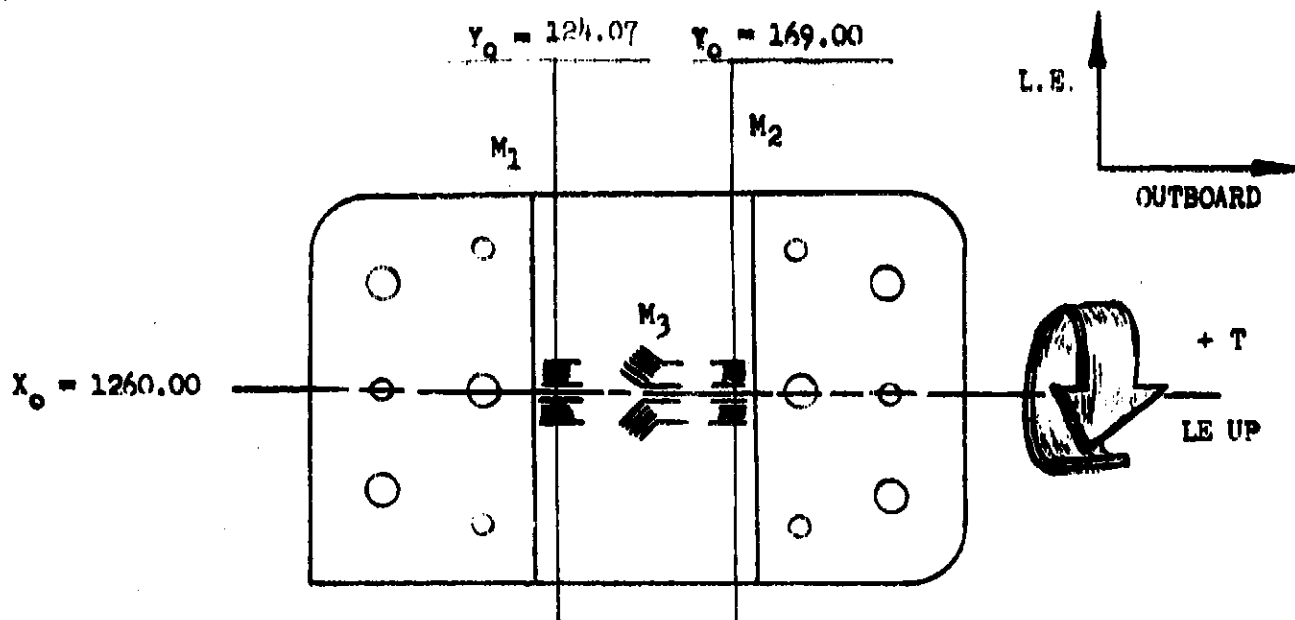
Figure 2. - Continued.



COLOR CODE		HINGELINE X_o
INBOARD ELEVON	GREY	1387.00
OUTBOARD ELEVON	YELLOW	1387.00
BODY FLAP	ORANGE	1532.00

h. Elevon and Body Flap Hinge Moment Gage

Figure 2. - Continued.



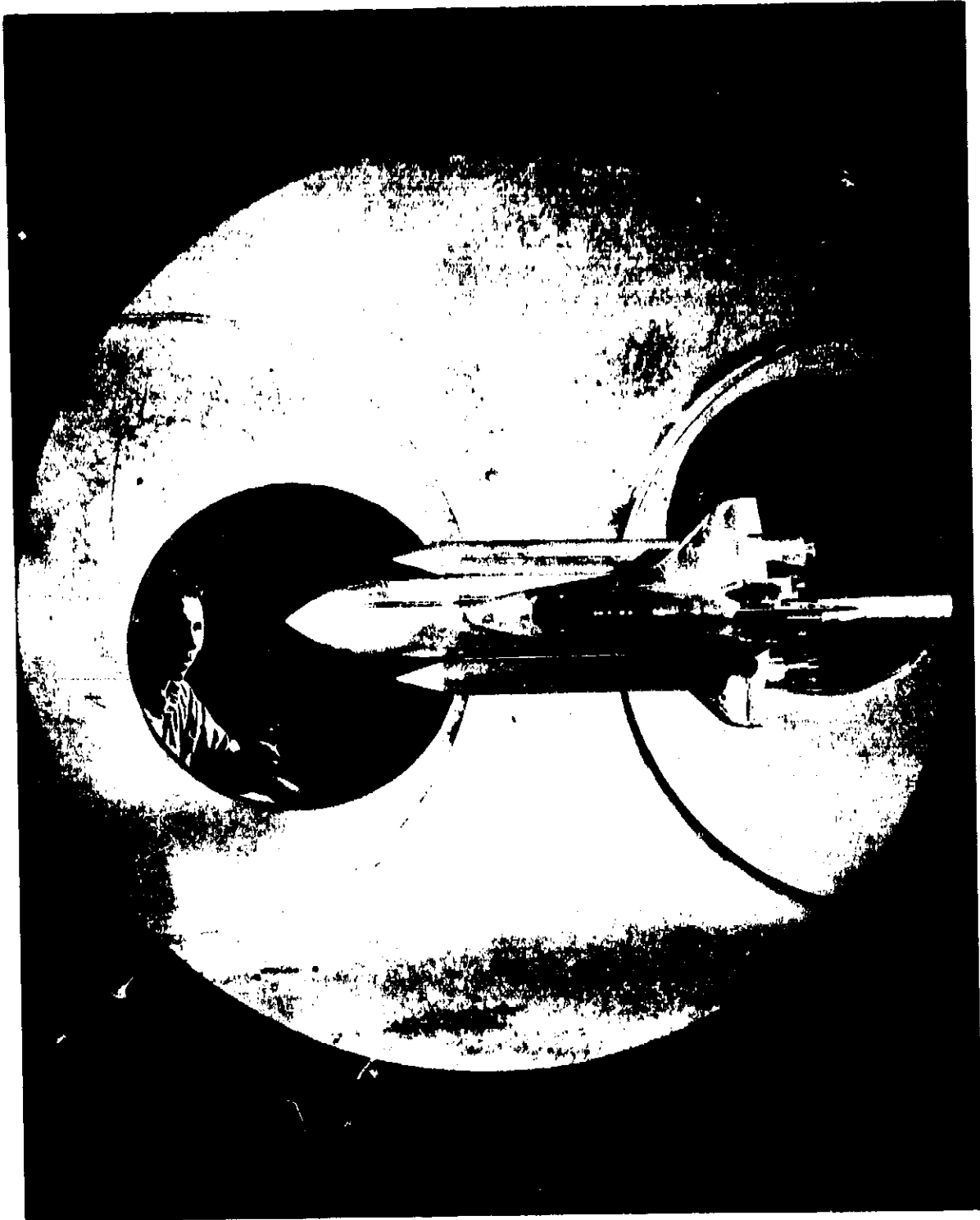
GAGE SCHEMATIC

COLOR CODE

M₁ - BLUE
M₂ - WHITE
M₃ - PURPLE

1. Wing Bending and Torsion Gage

Figure 2. - Concluded.



a. Top View

Figure 3. - Model installation photographs.



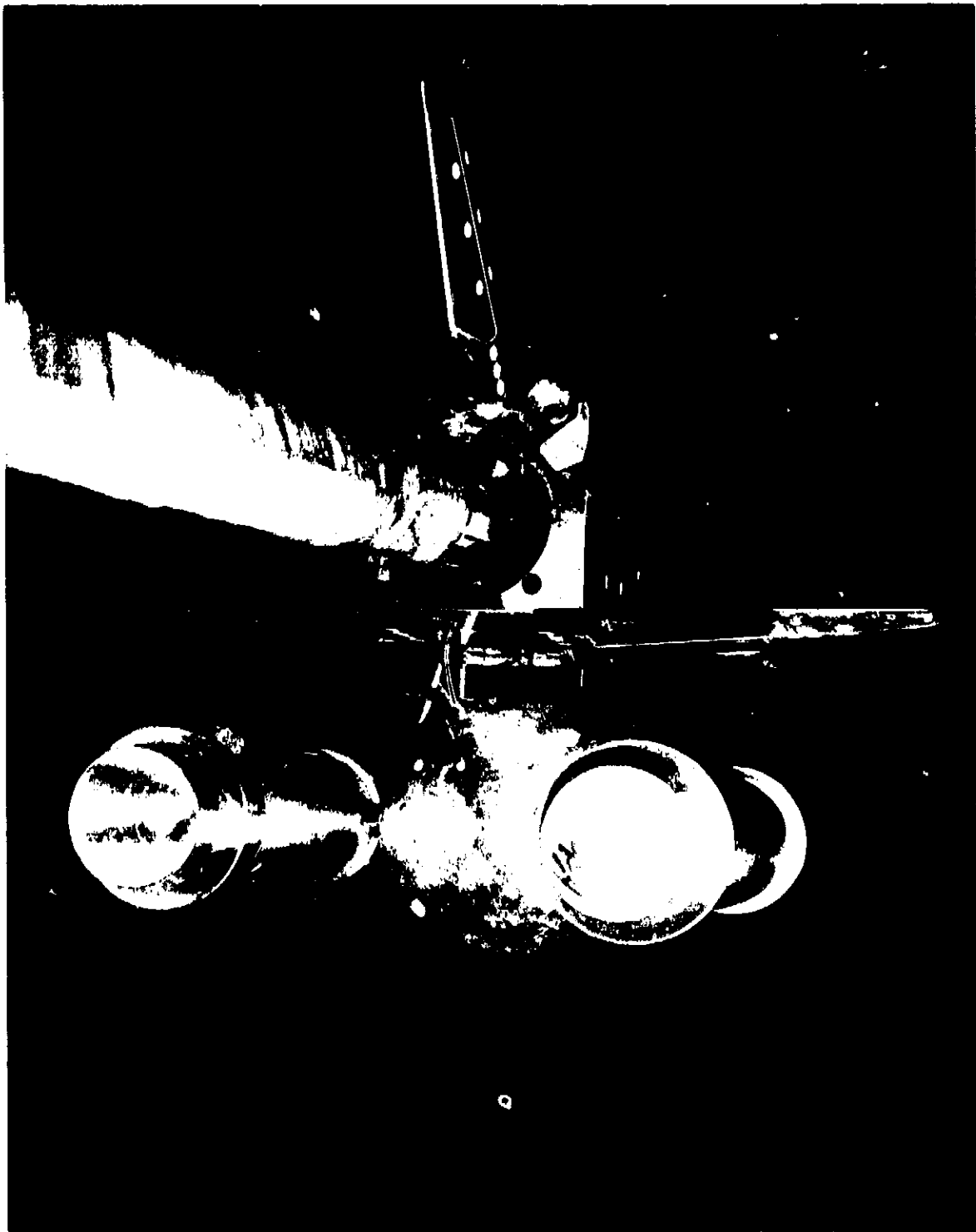
b. Upper Front View

Figure 3. - Continued.



c. Lower Front View

Figure 3. - Continued.



d. Rear View

Figure 3. - Concluded.

DATA FIGURES

Note: The 999.000 in the parametric values of ALPHA and BETA for Figures 4 through 17 is only a flag. The actual values for ALPHA and BETA are given in the individual datasets in the Appendix.

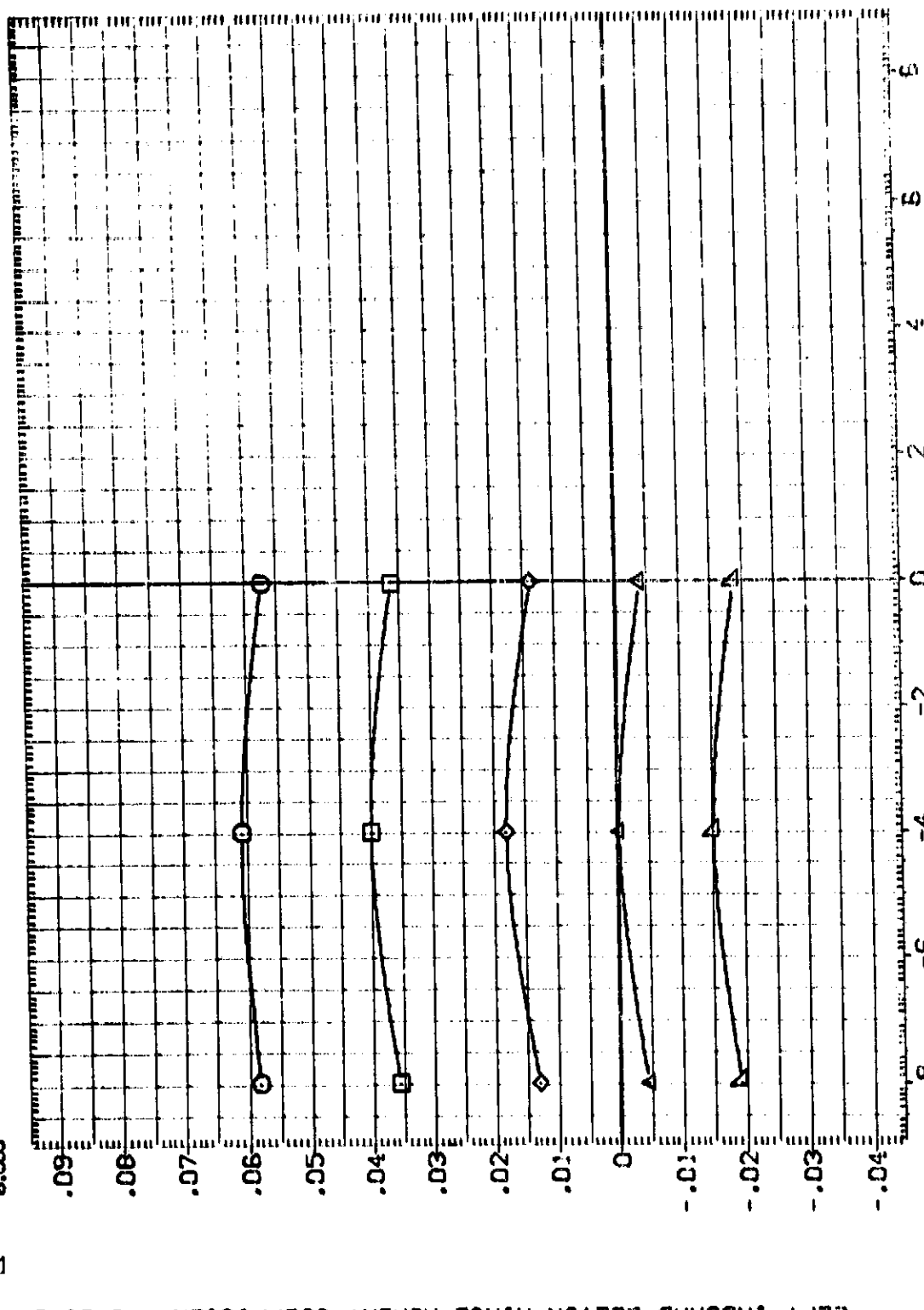
REFERENCE INFORMATION
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 REF 474.8100
 REF 936.6800
 REF 979.0000
 YARP .0000
 ZARP 400.0000
 SCALE .0150

DATA SOURCE
 DATASET ELV-08
 FE1005 -4.000

PARAMETRIC VALUES
 ELV-18
 BUFLAP
 RUDDER

ALPHA
 -8.000
 -4.000
 .000
 4.000
 8.000

SYMBOL
 17
 18
 19
 20
 21



LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHEI-L

FIG. 4 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-18 = 8.0

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AYES 97-052 (A110 (01 112 S1 P2 P8) (FE1D19)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000	1.550	ELV-1B	0.000 DATASET	2850.0000
◇	-4.000	2.500	BOFLAP	0.000 FE1D19	474.8100
◇	0.000	0.000	RUDDER	0.000 FE1D13	956.6800
▽	4.000	0.000	BETA	0.000	979.0000
	8.000				400.0000
					SCALE .0150



FIG. 4 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-1B = 8.0

OLIO 44

ALPHA
-9.000
-4.000
.000
4.000
9.000

WACH
FNL
SPDRX
BETA

PARAMETRIC VALUES	
1.550	ELV-1B
2.500	BOFLAP
.000	RUDDER
99.000	

	DATA SOURCE
8.000	ELV-08
.000	-8.000
.000	.000

00134
FBI005
DATASET
FIV-OB
-4.000

REFERENCE INFORMATION		SQ. FT.	
		N.	X
		N.	N.
		N.	N.
		N.	N.
		N.	N.
750,000			
474,810			
925,500			
979,000			
700,000			
400,000			
0150			

RIGHT WING TORSIONAL MOMENT COEFFICIENT, CTW-R

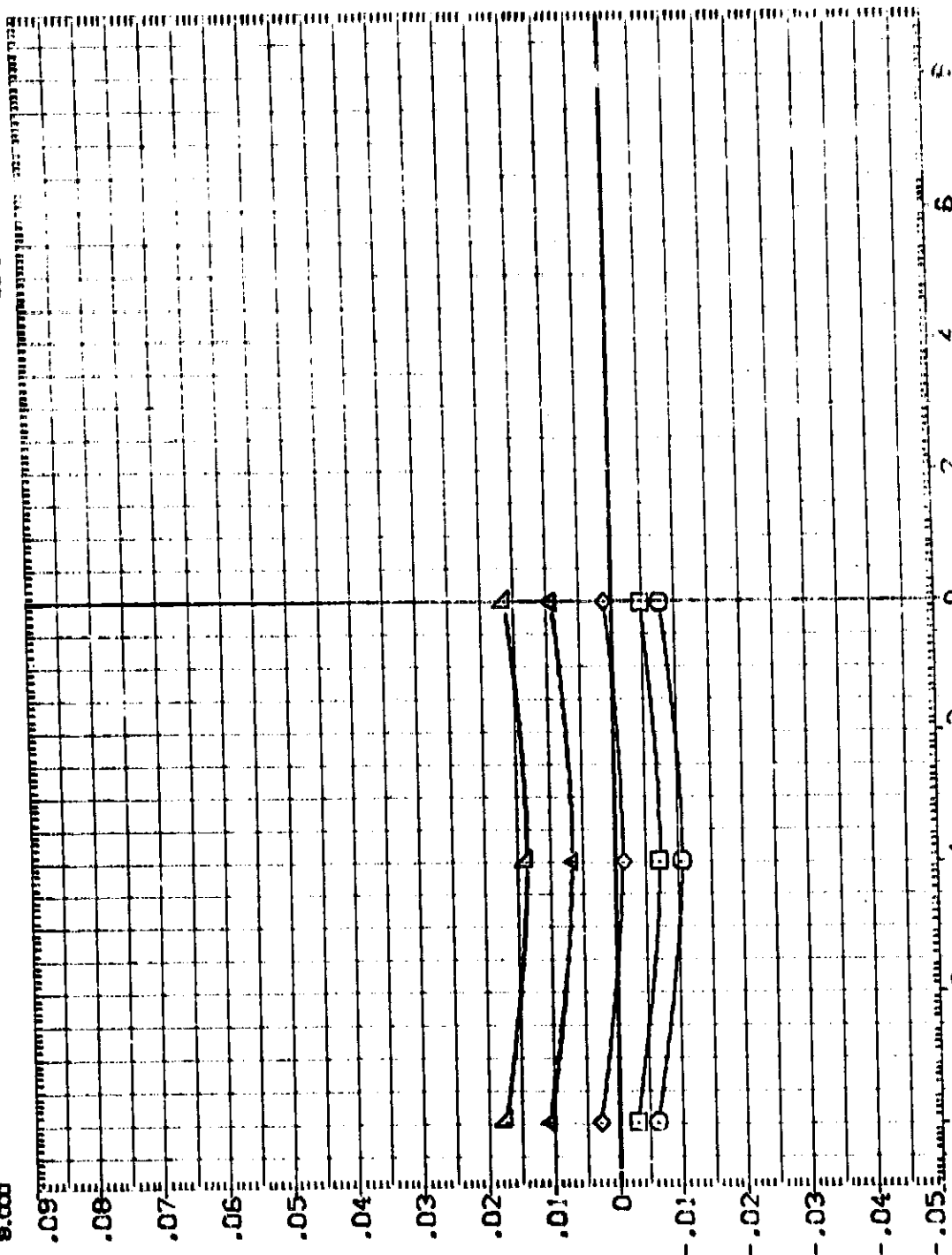


FIG. 4 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELEV-1B = 8.0

AMES 97-052 IAI10 (01 T12 S1 P2 P8) (FE10181)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000	2.000	ELV-1B	8.000 DATASET	2690.000 SREF
◇	-4.000	2.500	90° FLAP	0.000 FE1C16	474.8100 LREF
◇	0.000	3.000	RUDDER	0.000 FE1C12	536.8800 BREF
◇	4.000	3.500		0.000	579.0000 XREF
◇	8.000	4.000		0.000	600.0000 YREF
				0.000	400.0000 IN. XT
				0.000	400.0000 IN. ZT
				0.000	SCALE

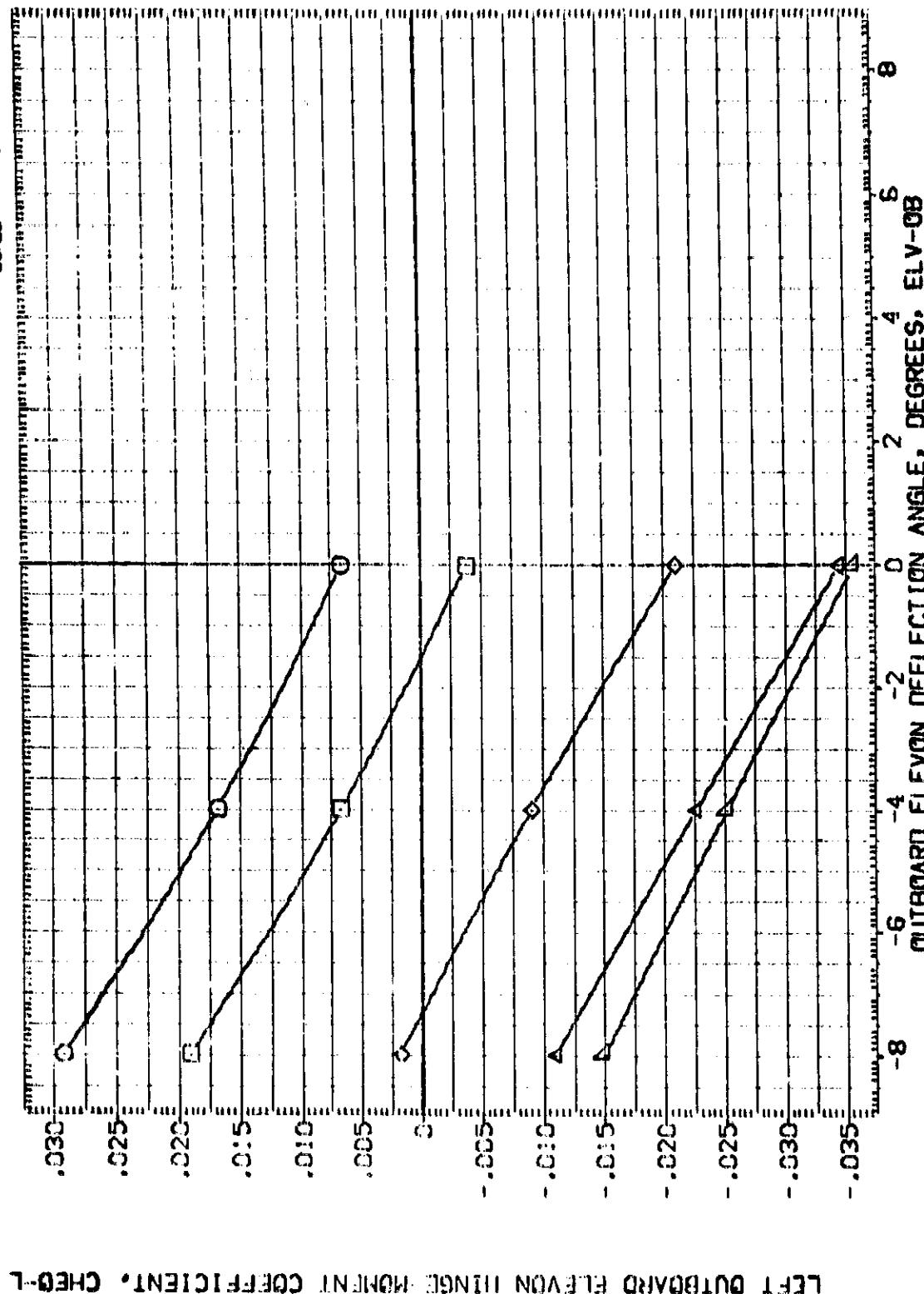


FIG. 5 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-1B = 8.0

AMES 97-052 [A110 (01 T12 S1 P2 P8) (FE1010)]

SYMBOL	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
	ALPHA	MACH	ELV-18	ELV-18	ELV-08	ELV-08	DATASET	ELV-08	SREF	50-FT.
○	-8.000		2.000	2.000	8.000	8.000	FE1010	-4.000	2690.0000	IN.
□	-4.000		2.500	2.500	.000	.000	FE1012	-4.000	4741.9100	IN.
◇	.000		.000	.000	.000	.000	FE1012	.000	936.6800	IN.
△	4.000		.000	.000	.000	.000	FE1012	.000	979.0000	IN.
▽	8.000		.000	.000	.000	.000	FE1012	.000	400.0000	IN.
									SCALE	.0150

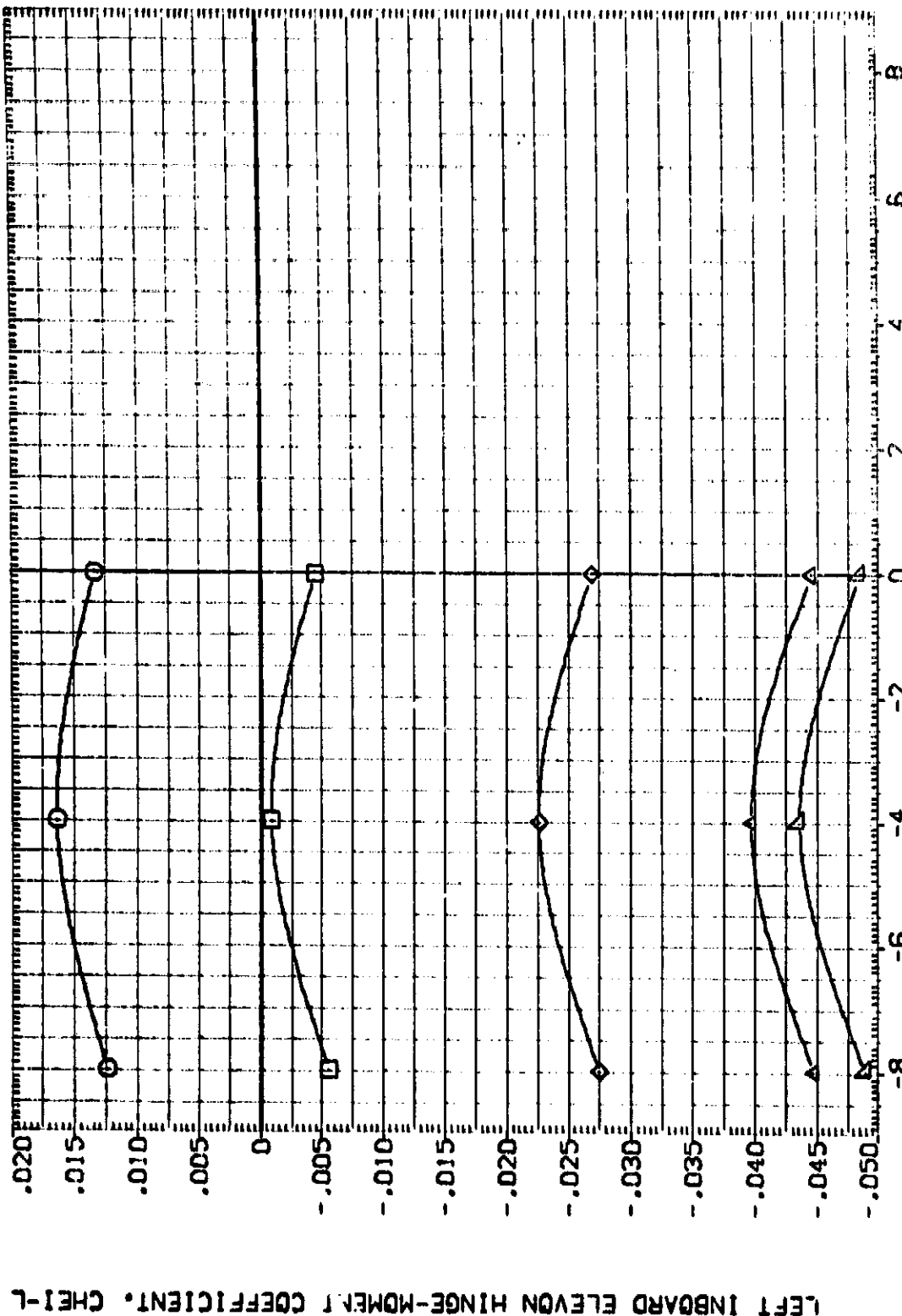


FIG. 5 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.03, ELV-18 = 8.0

AMES 97-052 [A110 (01 T12 S1 P2 P8) (FE1018)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	8.000	ELV-08	SREF	50. FT.
-8.000	2.000	8.000	FE1018	REF	IN.
-4.000	2.500	.000	FE1018	REF	IN.
.000	SPDRK	.000	FE1018	REF	IN.
4.000	BETA	.000	FE1018	REF	IN.
8.000	399.000	.000	FE1018	REF	IN.
				SCALE	.0150



FIG. 5 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-19 = 8.0

AMES 97-052 [A110 (01 T12 S1 P2 P8) (FE1010)]

SYMBOL	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
	ALPHA	MACH	2.000	ELV-18	8.000	DATASET	ELV-08	DATASET	ELV-08	SREF	2850.0000	50.00
□	-8.000	RN/L	2.500	BOFLAP	.000	FE1018	-8.000	FE1003	-4.000	1.REF	474.8100	IN.
◇	-4.000	SP/DBRA	.000	RUDDER	.000	FE1012	.000			BREF	936.5800	IN.
△	4.000	BETA	988.000							AMRP	979.0000	IN.
▽	8.000									YMRP	400.0000	IN.
										ZMRP	400.0000	IN.
										SCALE	.0150	

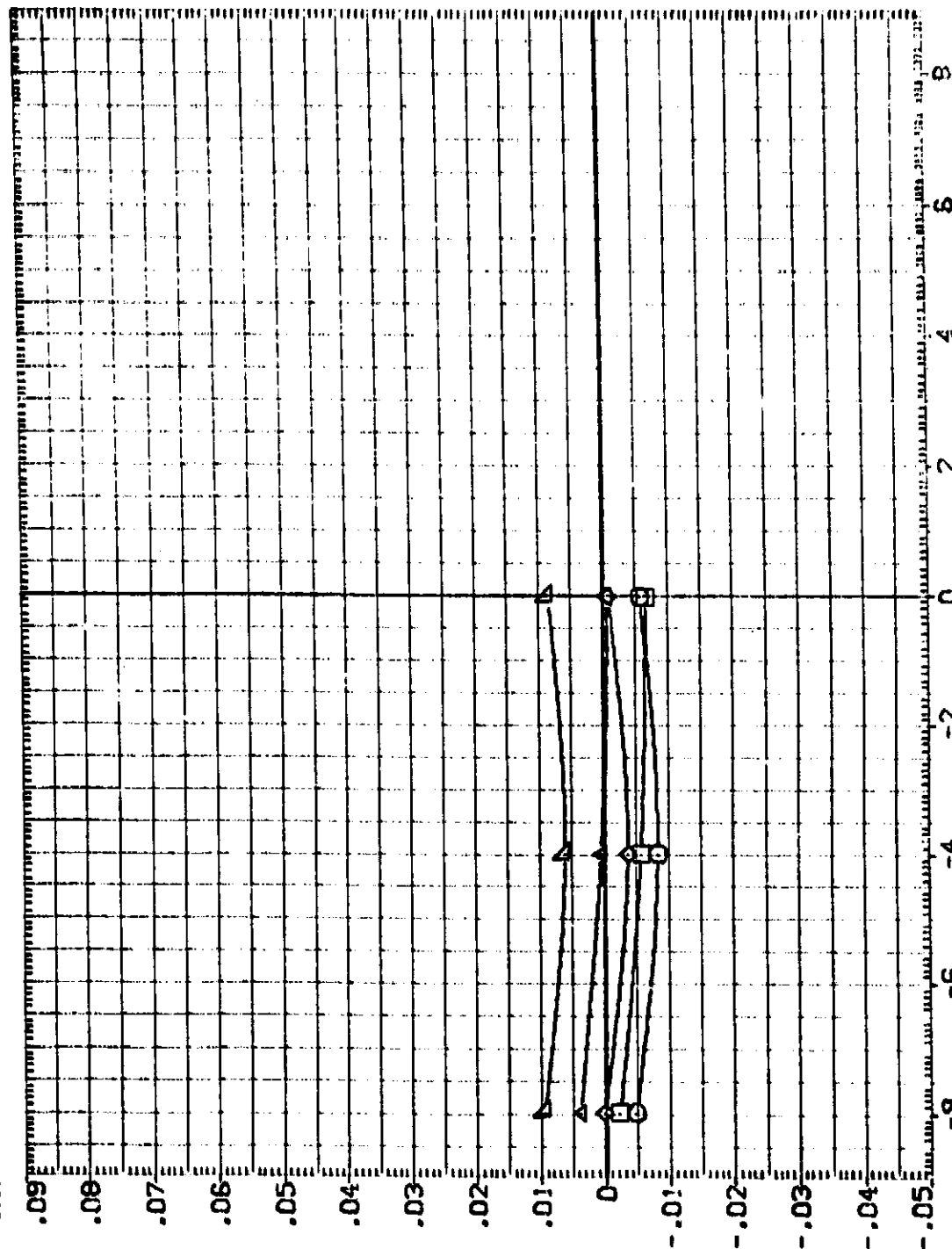


FIG. 5 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-18 = 8.0

AMES 97-052 [A110 (Q1 T12 S1 P2 P8)
(FE1017)]

011044

9.000
 4.000
 .000
 -4.000
 -8.000
 ALFA

HACH
RNL
SPDRM
BETA

PARAMET
2.50E
2.50E
.000
999.000

VALUES
LV-18
DEFLAP
QUODER

DATA SOURCE
LV-03
8-0000

10013
DATASET

4.000

REFE
789
47
93
97
101

INTER

25. FT. 1111



(FE1017)

AMES 97-052 [A110 (01 T12 S1 P2 P8)

SYMBOL
□
◇
△

ALPHA
-8.000
-4.000
.000
4.000
8.000

MACH
RN/L
SPDRK
BETA

PARAMETRIC VALUES
2.500 ELV-IB
2.500 80FLAP
.000 RUDDER
9999.000

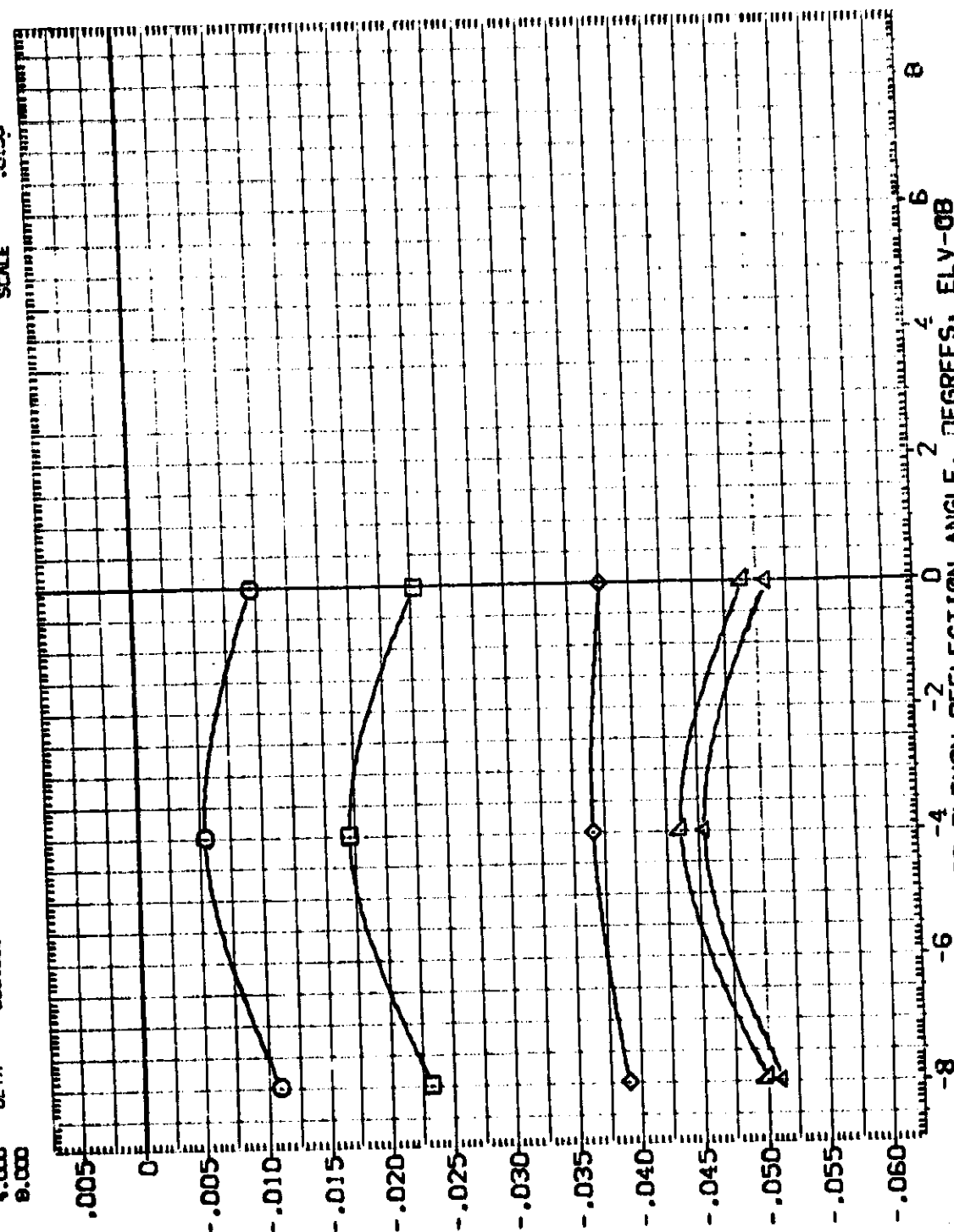
DATA SOURCE
8.000 DATASET
.000 FE1017
.000 FE1011

ELV-OB
-8.000
.000

DATASET
FE1001

ELV-OB
-4.000
XREF
YREF
ZREF
SCALE

REFERENCE INFORMATION
2890.0000
474.8100
996.9800
979.0000
400.0000
0.0150



LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{H1-L}

FIG. 6 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-IB = 8.0

AMES 97-052 (A110 (01 112 S1 P2 P8) (FE10:7)

SYMBOL	ALFA-A	MACH	PAPAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000	2.500	ELV-1B	ELV-08	2850.0000
◇	-4.000	2.500	83FLAP	-8.000	474.8100
◇	.000	.000	RJUGDER	.000	956.2800
◇	4.000	999.000			979.0000
▽	8.000				400.0000
					0150

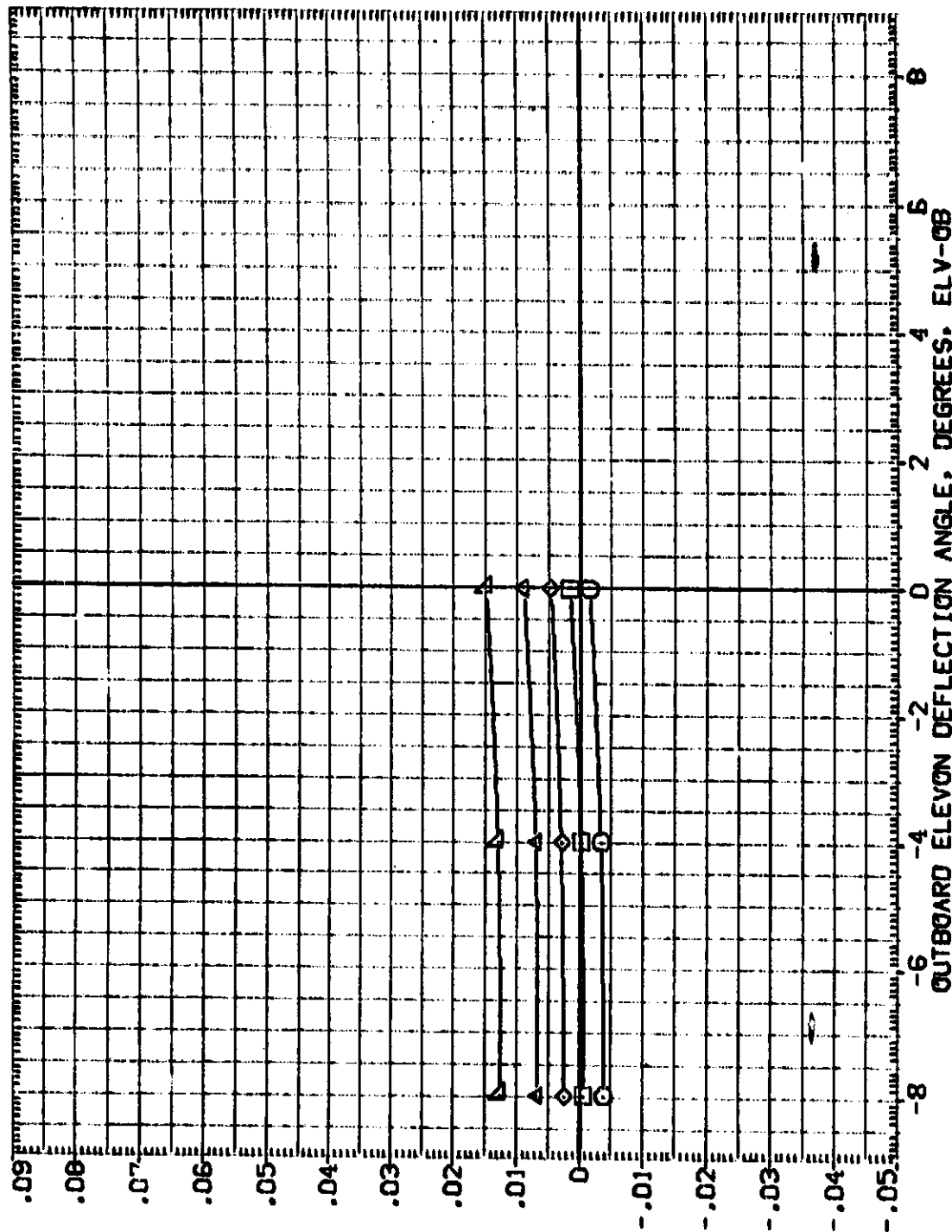


FIG. 6 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-1B = 8.0

AMES 97-052 1A110 (01 T12 S1 P2 P8)
(FE1017)

SREF	2690.0000	50.FT.
LRF	474.8100	IN.
BREF	596.6800	IN.
XRPD	579.0000	IN.
YRPP	.0000	IN.
ZRPP	400.0000	IN.
SCALE	.0150	IN.

DATA SOURCE

PARAMETRIC VALUES	
ALPHA	MACH
-8.000	2.500
-4.000	2.500
.000	.000
4.000	999.000
	BETA
	ELV-18
	90FLAP
	RUDDER

ALPHA
-9.000
-4.000
.000
4.000
9.000

SMBL

RIGHT WING TORSIONAL MOMENT COEFFICIENT, CTW-R

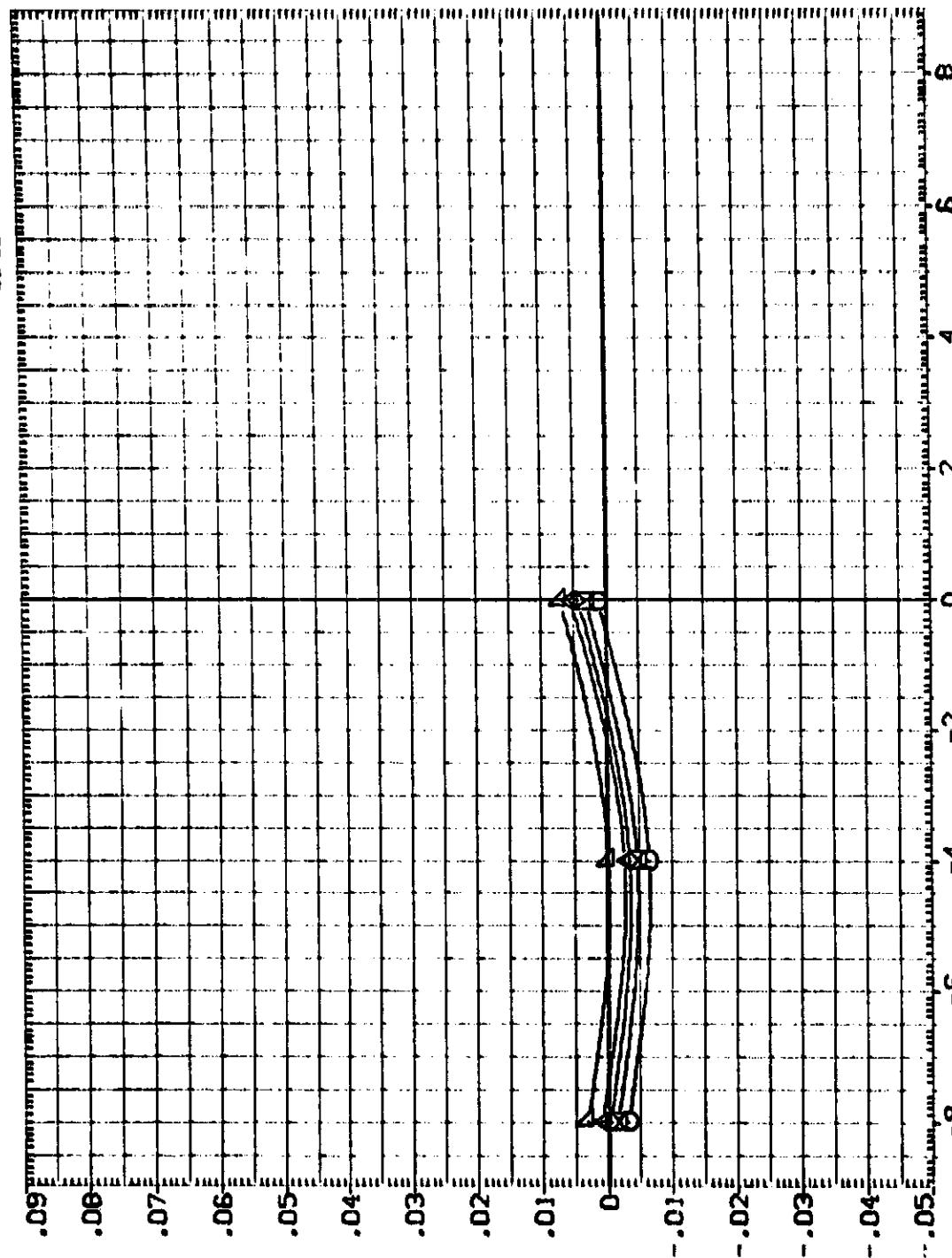


FIG. 6 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-IB = 8.0

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AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1022)

SYMBOL		BETA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
0	Q	-8.000	MACH	1.550	ELV-IB	6.000	DATASET	ELV-OB	SREF
1	Q	-4.000	RN/L	2.500	BD/FLAP	.000	FE1022	-4.000	LINEF
2	Q	.000	SP/DRK	.000	RUDDER	.000	FE1016		REF
3	Q	4.000	ALPHA	999.000					YREF
4	Q	8.000							ZREF
									SCALE
									2650.0000
									474.8100
									936.1800
									979.0000
									1000.0000
									400.0000
									.0150



FIG. 7 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-IB = 8.0

AMES 97-052 [A110 (01 T12 S1 P2 P8) (FE1022)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000		1.550	8.000	2620.0000
◇	-4.000	RV/L	2.500	ELV-IB	474.8100
□	.000	SPORAK	.000	DATASET	936.8800
△	4.000	ALPHA	.000	FE1022	979.0000
	8.000		999.000	FE1016	400.0000
				SCALE	.0150

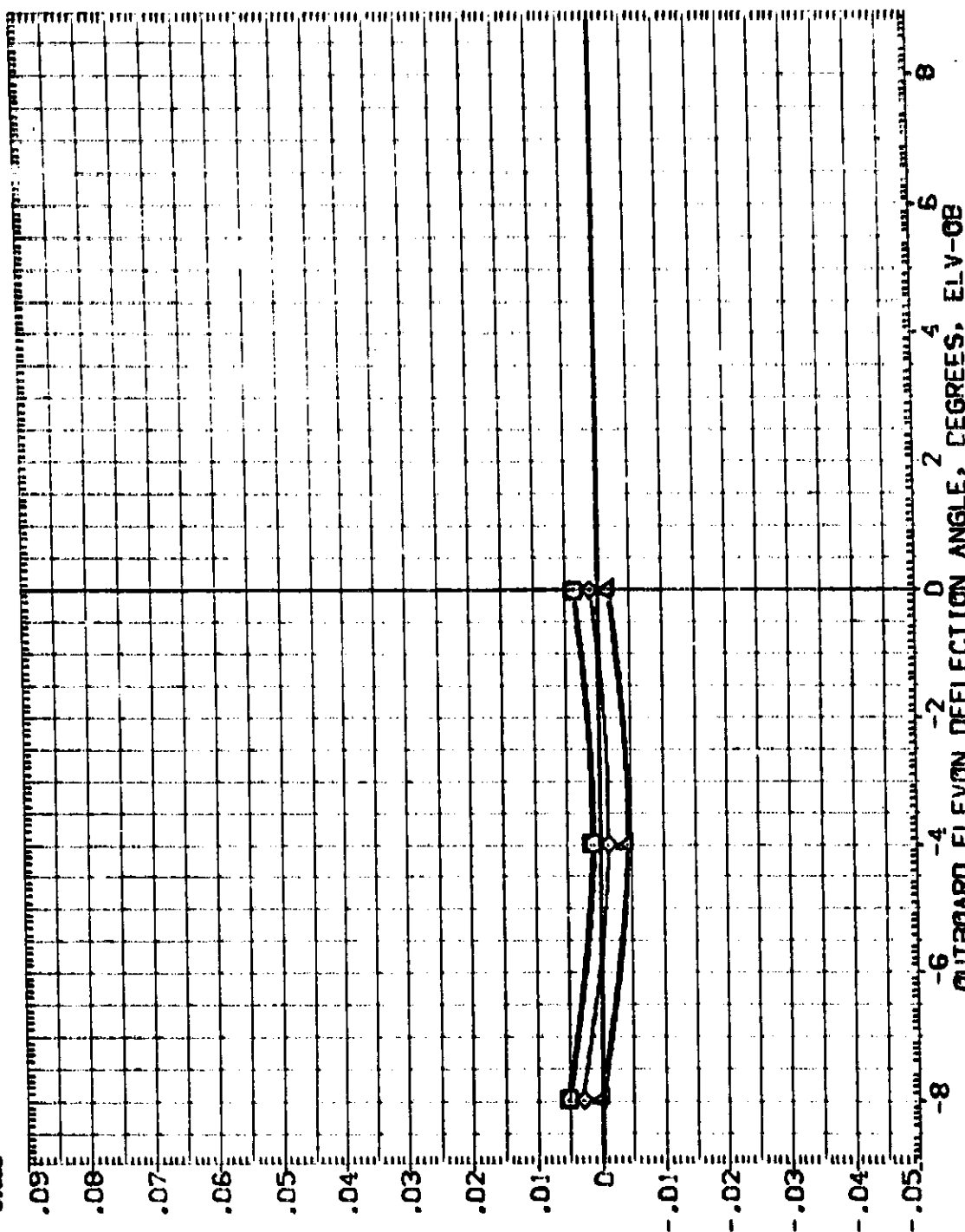


FIG. 7 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-IB = 8.0

AMES 97-052 IA110 (01 T12 S1 P2 P8) (FE1021)

DATA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
BETA	MACH	ELV-OB	SD.FT.
-8.000	2.000	ELV-OB	2800.0000
-4.000	2.500	FE1021	474.8400
.000	80FLAP	FE1008	566.6800
.000	SPDRK	FE1015	979.0000
4.000	RJUDER	FE1008	979.0000
8.000	999.000	FE1008	400.0000
		FE1008	SCALE
		FE1008	.0150

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{H-L}

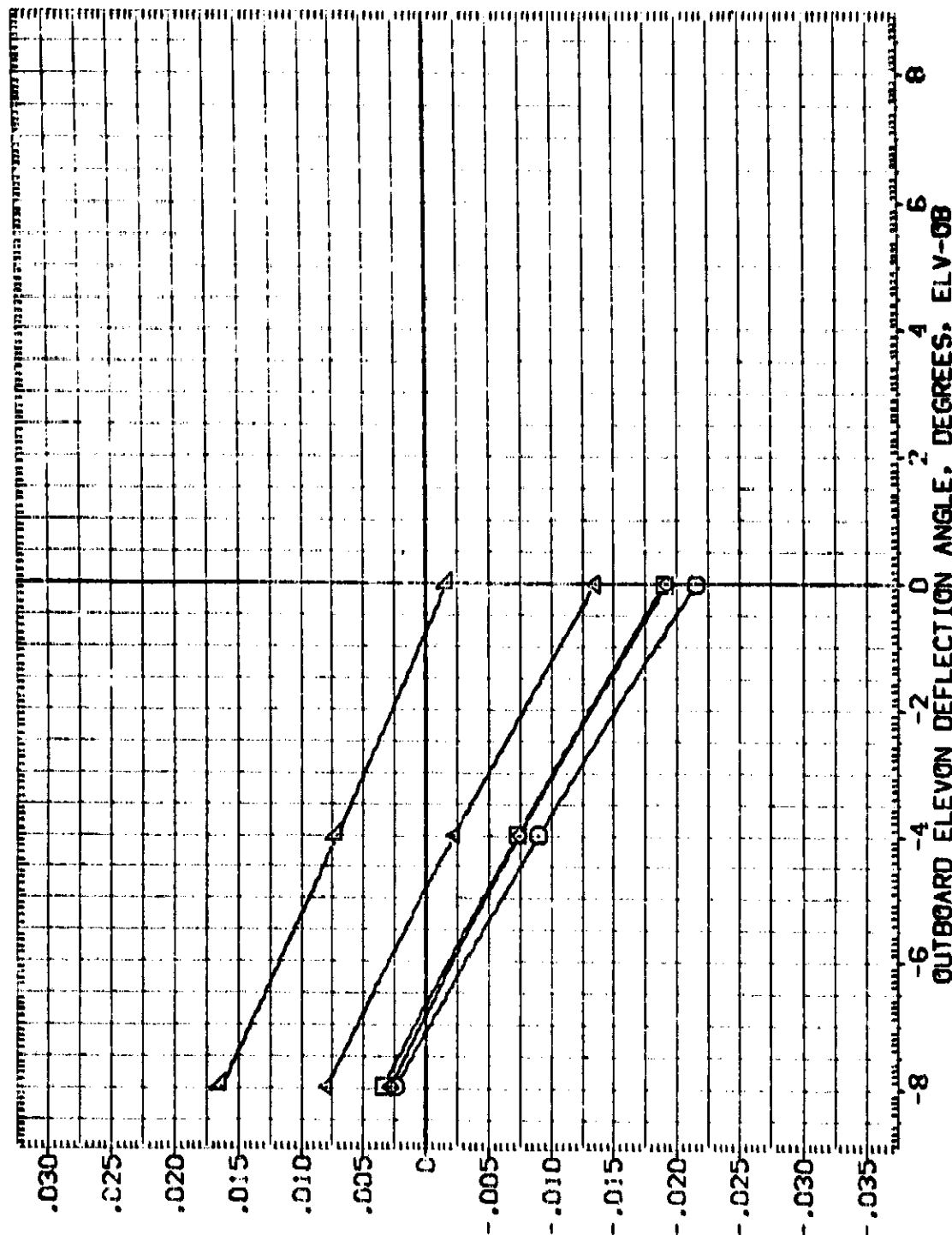
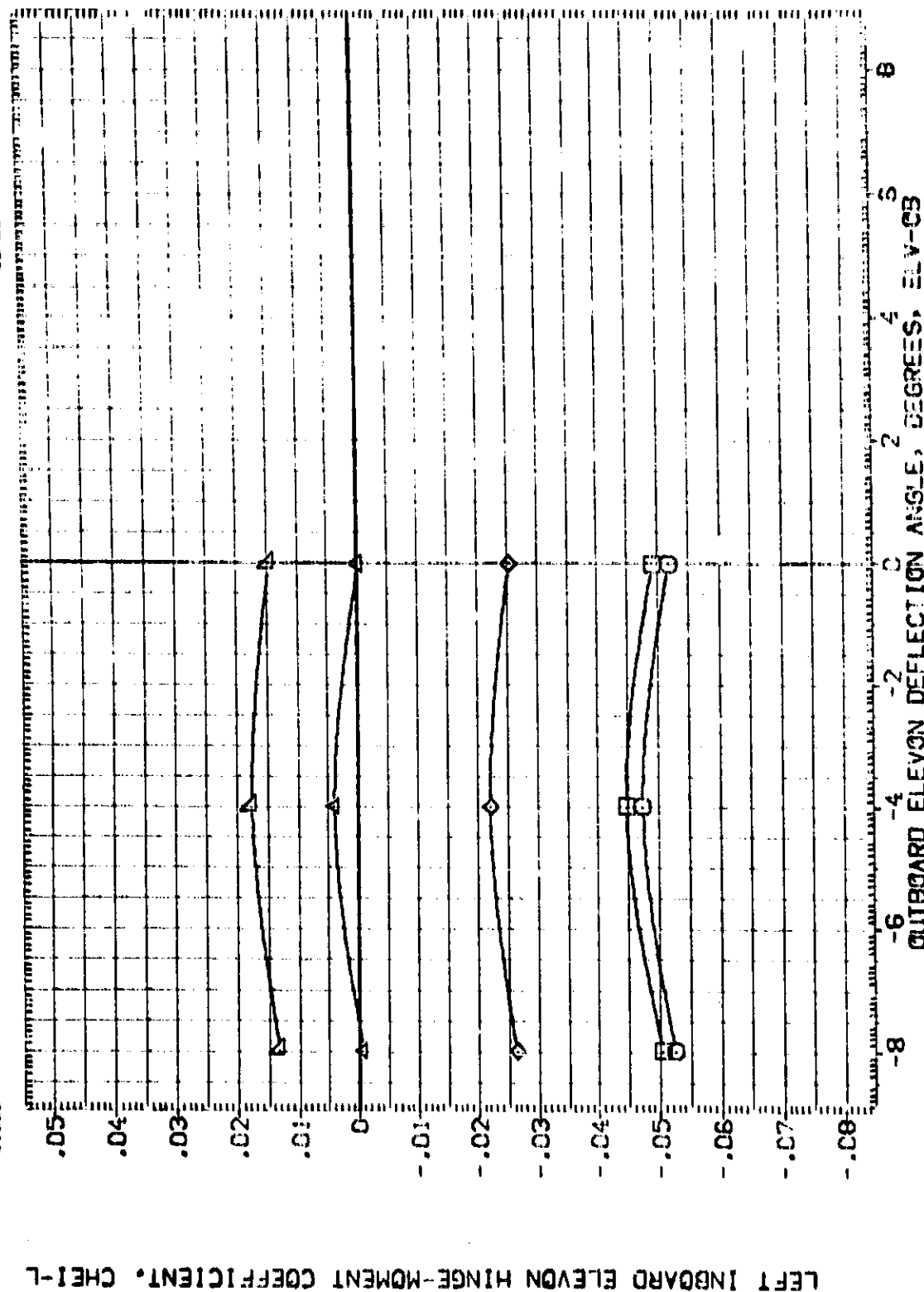


FIG. 8 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-IB = 8.0

AMES 97-052 1A110 (01 112 S1 P2 P8)
REF:021

SYMBOL	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	-9.000	MACH 2.000	ELV-08	580.000
1	-4.000	80FLAP 2.500	-8.000	580.000
2	.000	SP02BRK .000	FE1C09	580.000
3	4.000	ALPHA 999.000	FE1C21	580.000
4			FE1C25	580.000
5			FE1C25	580.000
6			FE1C25	580.000
7			FE1C25	580.000
8			FE1C25	580.000
9			FE1C25	580.000
10			FE1C25	580.000
11			FE1C25	580.000
12			FE1C25	580.000
13			FE1C25	580.000
14			FE1C25	580.000
15			FE1C25	580.000
16			FE1C25	580.000
17			FE1C25	580.000
18			FE1C25	580.000
19			FE1C25	580.000
20			FE1C25	580.000
21			FE1C25	580.000
22			FE1C25	580.000
23			FE1C25	580.000
24			FE1C25	580.000
25			FE1C25	580.000
26			FE1C25	580.000
27			FE1C25	580.000
28			FE1C25	580.000
29			FE1C25	580.000
30			FE1C25	580.000
31			FE1C25	580.000
32			FE1C25	580.000
33			FE1C25	580.000
34			FE1C25	580.000
35			FE1C25	580.000
36			FE1C25	580.000
37			FE1C25	580.000
38			FE1C25	580.000
39			FE1C25	580.000
40			FE1C25	580.000
41			FE1C25	580.000
42			FE1C25	580.000
43			FE1C25	580.000
44			FE1C25	580.000
45			FE1C25	580.000
46			FE1C25	580.000
47			FE1C25	580.000
48			FE1C25	580.000
49			FE1C25	580.000
50			FE1C25	580.000
51			FE1C25	580.000
52			FE1C25	580.000
53			FE1C25	580.000
54			FE1C25	580.000
55			FE1C25	580.000
56			FE1C25	580.000
57			FE1C25	580.000
58			FE1C25	580.000
59			FE1C25	580.000
60			FE1C25	580.000
61			FE1C25	580.000
62			FE1C25	580.000
63			FE1C25	580.000
64			FE1C25	580.000
65			FE1C25	580.000
66			FE1C25	580.000
67			FE1C25	580.000
68			FE1C25	580.000
69			FE1C25	580.000
70			FE1C25	580.000
71			FE1C25	580.000
72			FE1C25	580.000
73			FE1C25	580.000
74			FE1C25	580.000
75			FE1C25	580.000
76			FE1C25	580.000
77			FE1C25	580.000
78			FE1C25	580.000
79			FE1C25	580.000
80			FE1C25	580.000
81				



AMES 97-052 (A110 (01 112 S1 P2 P8) (FE10211)

SYMBOL		BETA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
17	0110	-8.000	MACH	2.000	ELV-18	8.000	CATASET	ELV-08	5207
18	0110	-4.000	RV/L	2.500	BOFLAP	.000	FE1021	-4.000	5207
19	0110	.000	SP05RX	.000	RUDER	.000	FE1021	430.000	5207
20	0110	4.000	ALPHA	999.000				430.000	5207
21	0110	8.000						430.000	5207

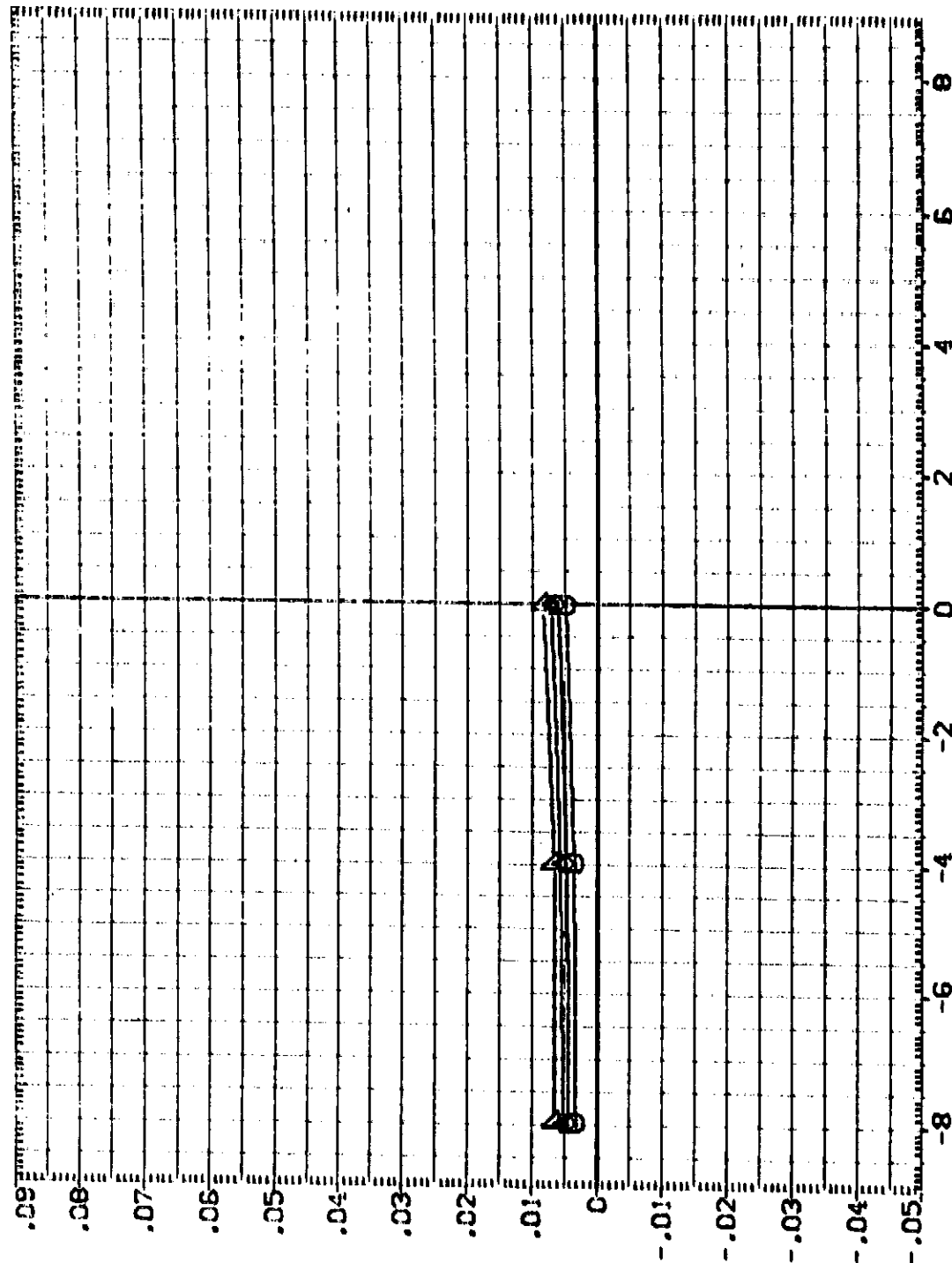


FIG. 8 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-18 = 8.0

AMES 97-052 1A110 (01 112 S1 P2 P8) (FE1021)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
▽	BETA	MACH	ELV-1B	6.000	ELV-0B	SREF	50. FT.
□	-8.000	2.000	2.500	.000	FE1021	LINEF	IN.
◇	-4.000	2.500	BOFLAP	.000	FE1015	BREF	IN.
△	.000	SP08RK	.000	.000	FE1015	XREF	IN.
	4.000	ALPHA	999.070	.000	FE1015	YREF	IN.
	8.000			.000	FE1015	ZREF	IN.
				.000	FE1015	SCALE	.0150

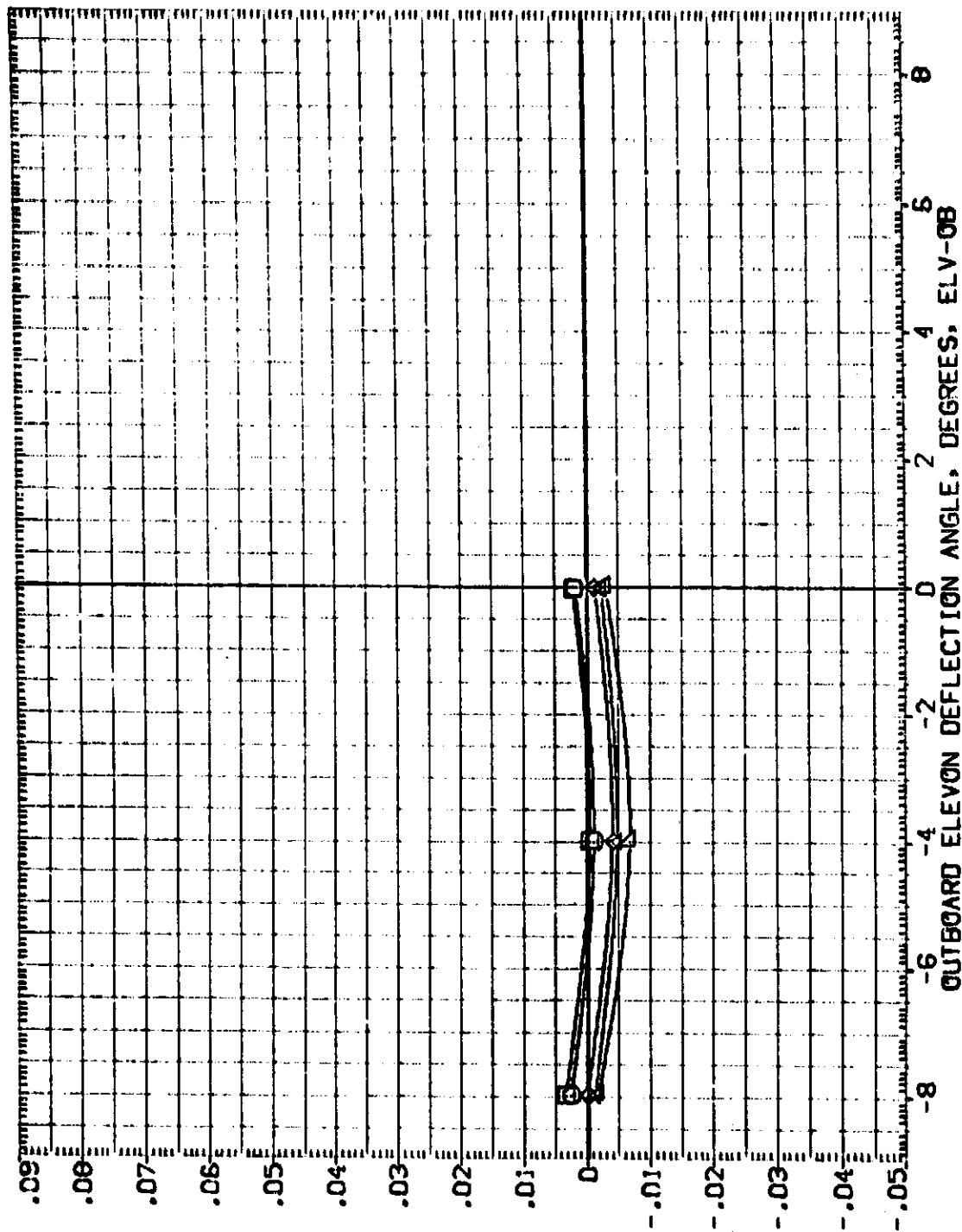


FIG. 8 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-1B = 8.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1020)

ST-80	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	-9.000	MACH 2.500	ELV-OB	2890.0000
1	-4.000	ELV-19	ELV-OB	474.8100
2	0.000	BOFLAP	FE1006	936.2800
3	0.000	RUDDER	FE1014	972.0000
4	4.000	SP29K	FE1014	400.0000
5	8.000	ALPHA	FE1014	400.0000
			SCALE	0.50

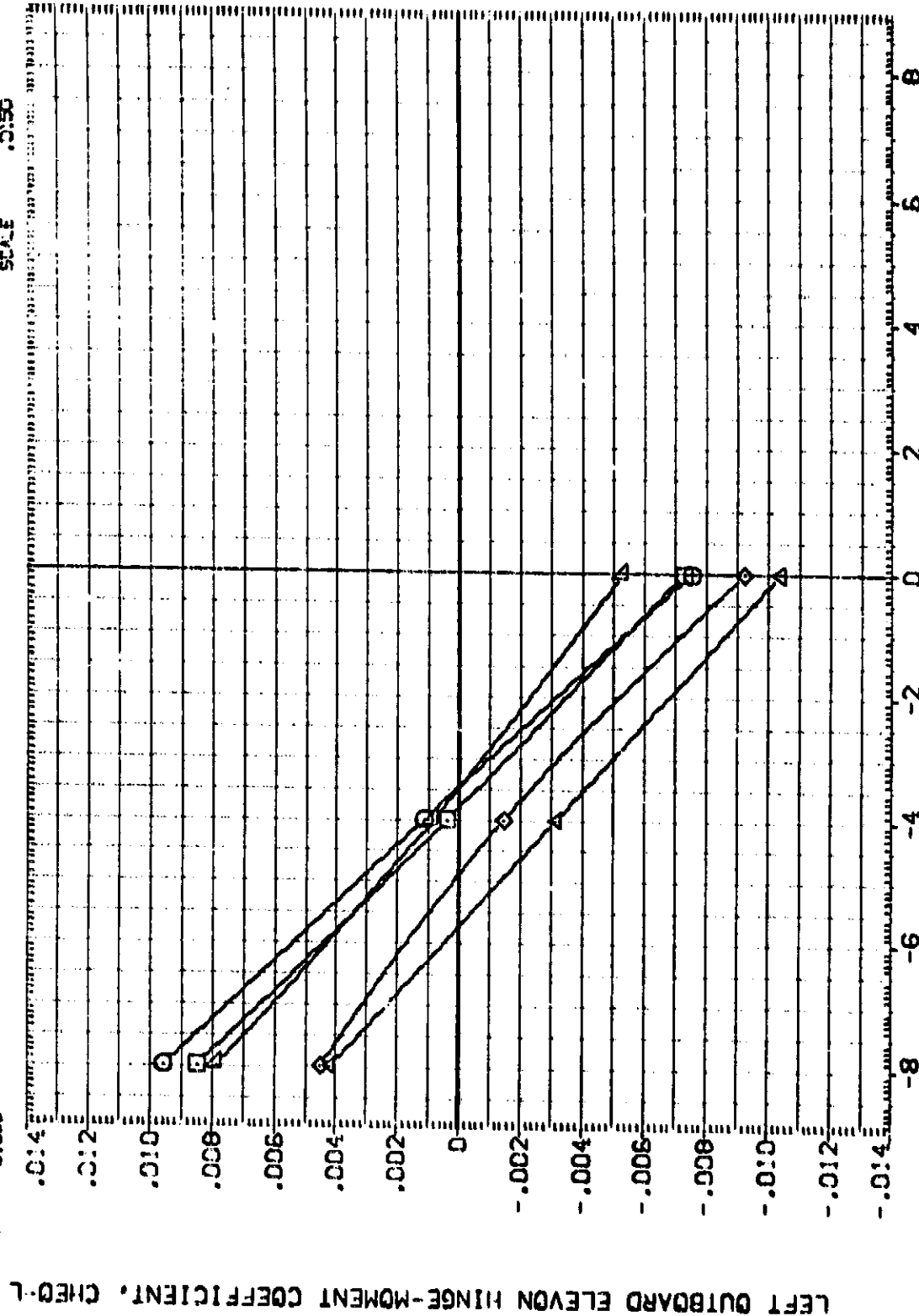


FIG. 9 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-IB = 8.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1020)

SYMBOL	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
	BETA	MACH	ELV-IB	BOFLAP	ELV-OB	FE1020	FE1006	ELV-OB	SREF	50 FT.
□	-8.000	2.500	2.500	2.500	-8.000	.000	FE1006	-4.000	474.8100	IN.
◇	-4.000	2.500	.000	.000	.000	.000	FE1014	.000	556.6800	IN.
△	.000	2.500	.000	.000	.000	.000	FE1014	.000	572.0000	IN.
▽	4.000	2.500	.000	.000	.000	.000	FE1014	.000	400.0000	IN.
△	8.000	2.500	.000	.000	.000	.000	FE1014	.000	400.0000	IN.

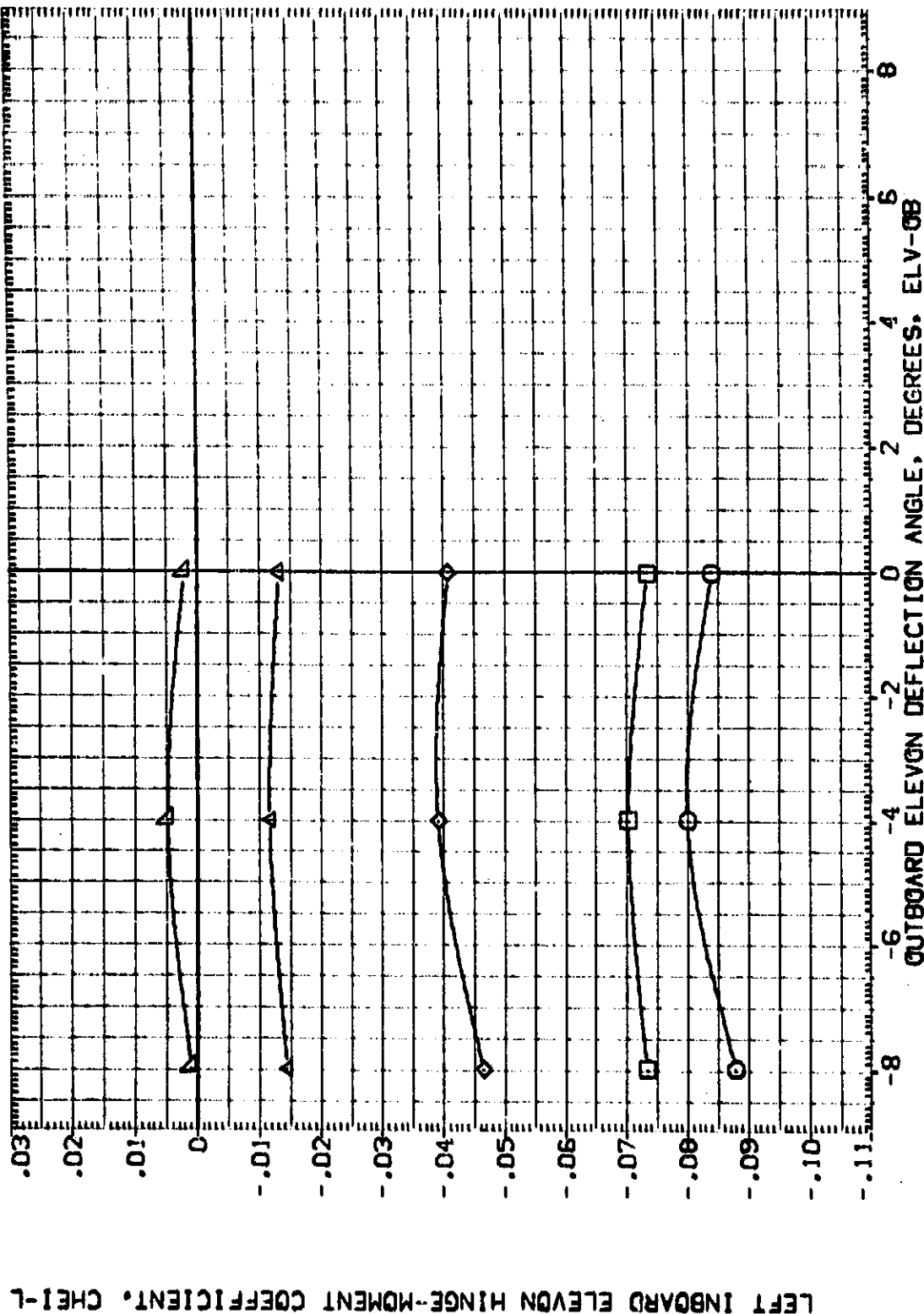


FIG. 9 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-IB = 8.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1020)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0110421	-9.000	2.500	ELV-1B	ELV-08	2690.0000
	-4.000	2.500	BOFLAP	-8.000	474.9100
	.000	.000	RUDER	.000	936.6800
	4.000	.000	999.000	FE1020	979.0000
	8.000	ALPHA		FE1014	400.0000
					SCALE
					.0150

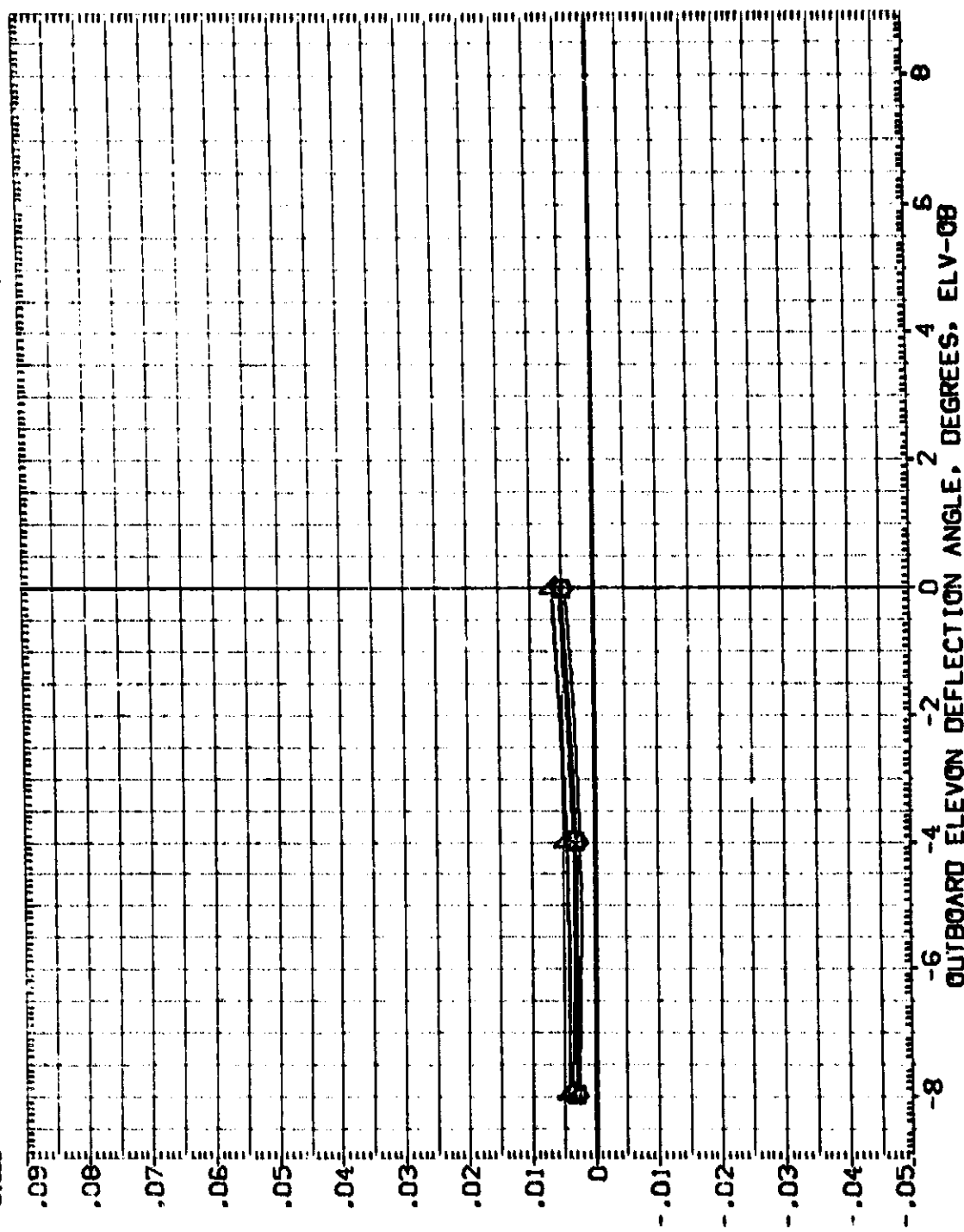


FIG. 9 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-1B = 8.0

AMES 97-052 1A110 (01 T12 S1 P2 P8) (FE1020)

REFERENCE INFORMATION
SQ.FT. 2650.0000
IN. 474.8100
IN. 936.6800
IN. 979.0000
IN. 400.0000
IN. 400.0000
SCALE .0150

DATA SOURCE
ELV-CB
-8.000
FE1020
FE1014

PARAMETRIC VALUES
ELV-18
8.000
BOFLAP
.000
RUDDER
.000
999.000

BETA
-8.000
MACH
4.000
RN/L
4.000
SPDRK
9.000
ALPHA

SYMBOL
□
◇
◇
◇
◇

RIGHT WING TORSIONAL MOMENT COEFFICIENT, CTW-R

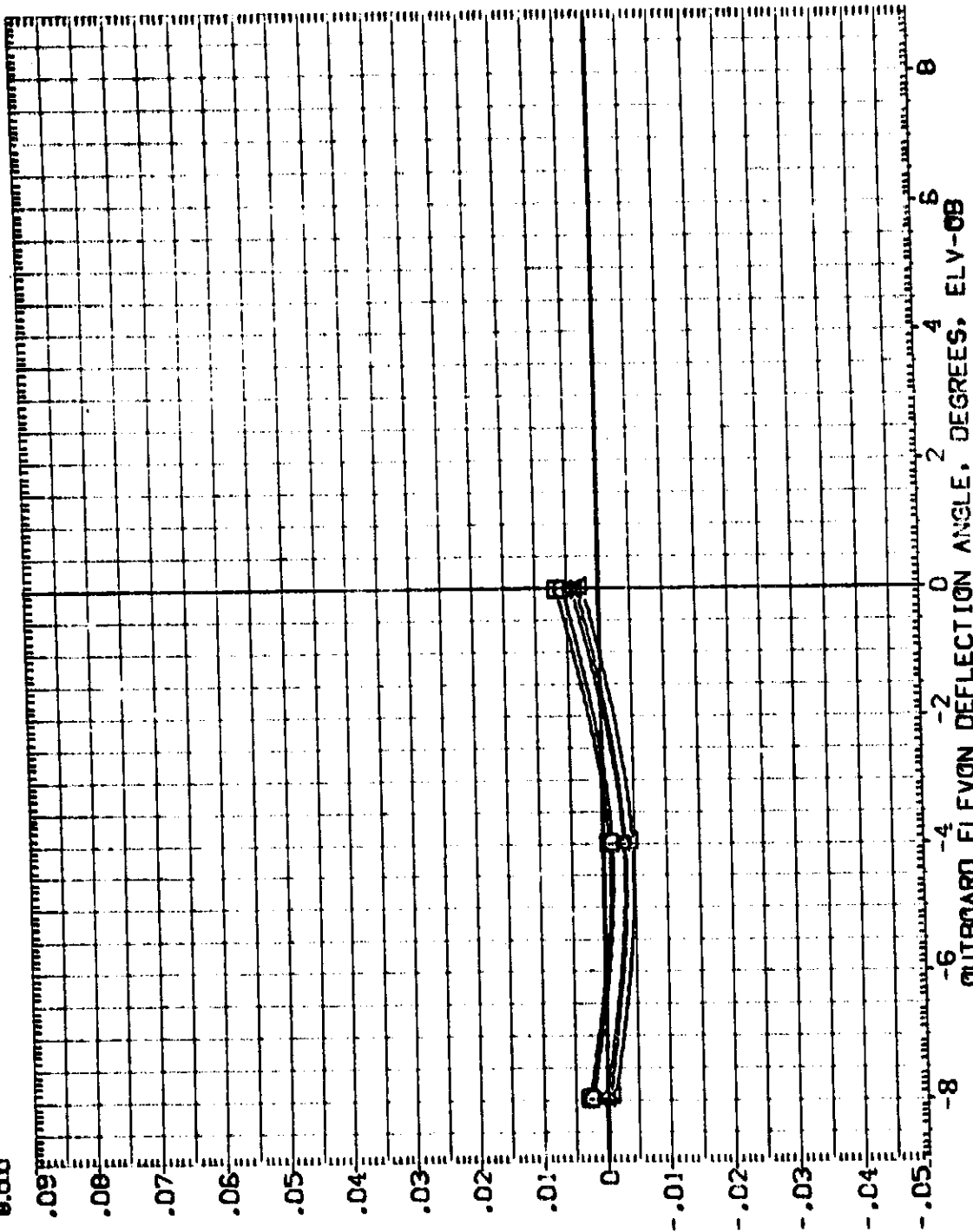


FIG. 9 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.50, ELV-18 = 8.0

AMES 97-052 1A110 (01 112 S1 P2 P8)

(FE1028)

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
-8.000	1.550	ELV-IB	ELV-IB	2850.0000
-4.000	2.500	80FLAP	12.000 DATASET	474.8100
.000	.000	RUDDER	.000 FE1028	936.8800
4.000	899.000		.000 FE1023	979.0000
8.000				400.0000
				SCALE
				.0150

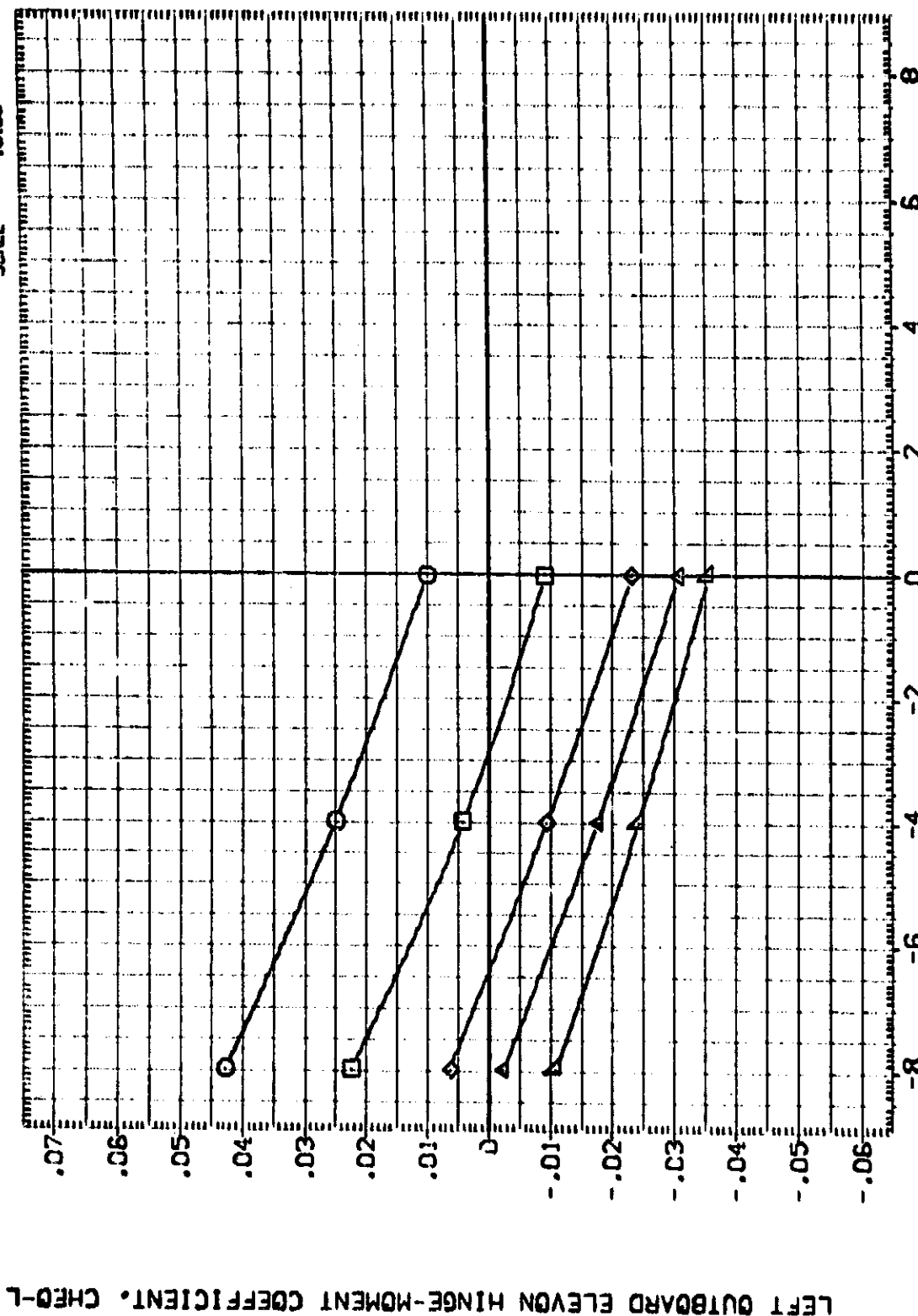


FIG. 10 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-IB = 12.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1028)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	1.550	ELV-1B	12.000	DATASET	ELV-0B	SREF
-8.000	80/L	2.500	80/LAP	.000	FE1028	-4.000	474.8100
-4.000	SP088K	.000	RUDDER	.000	FE1023		936.6800
4.000	BETA	999.000					979.0000
9.000							400.0000
							SCALE
							.0150

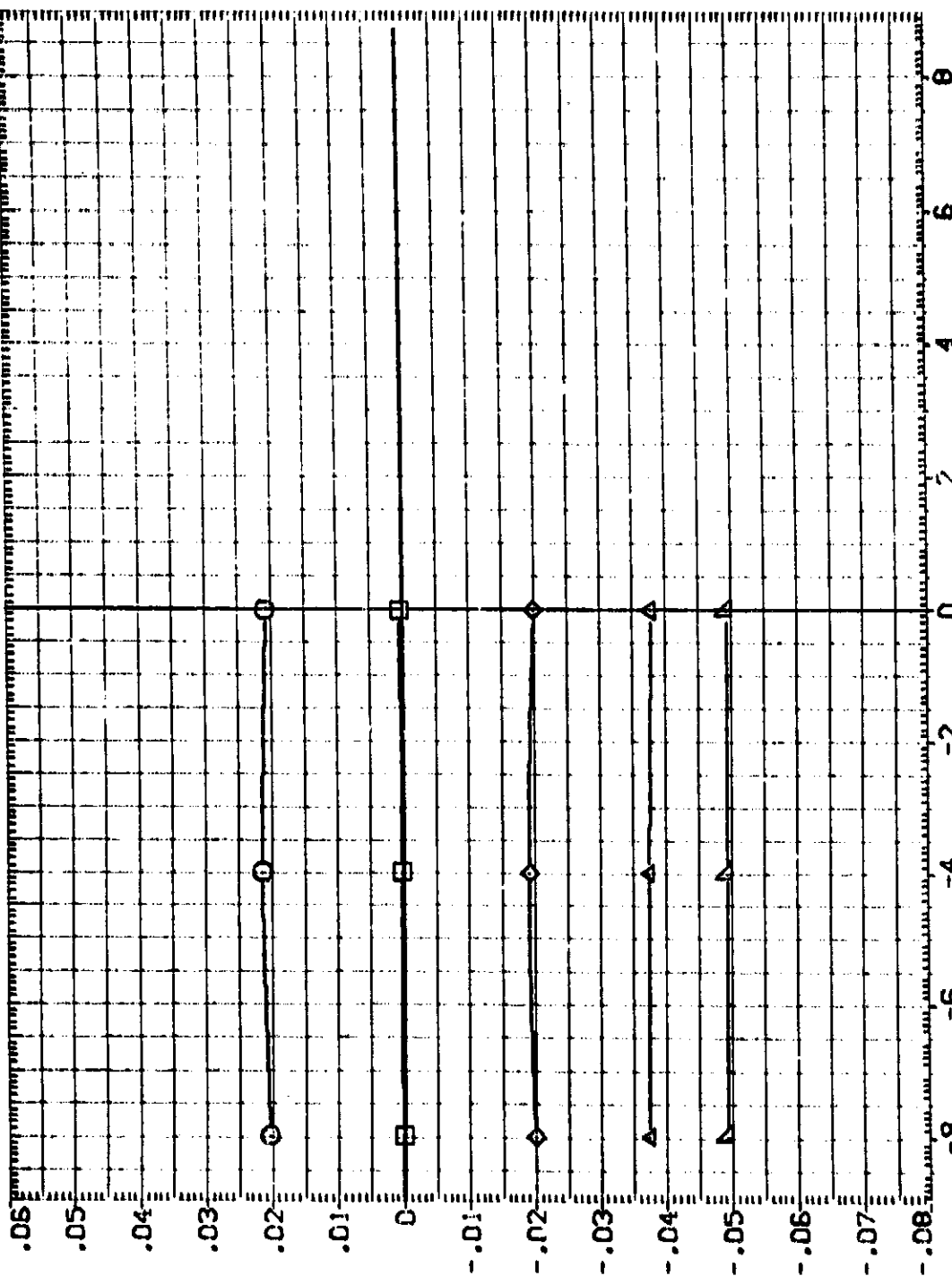


FIG. 10 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-1B = 12.0

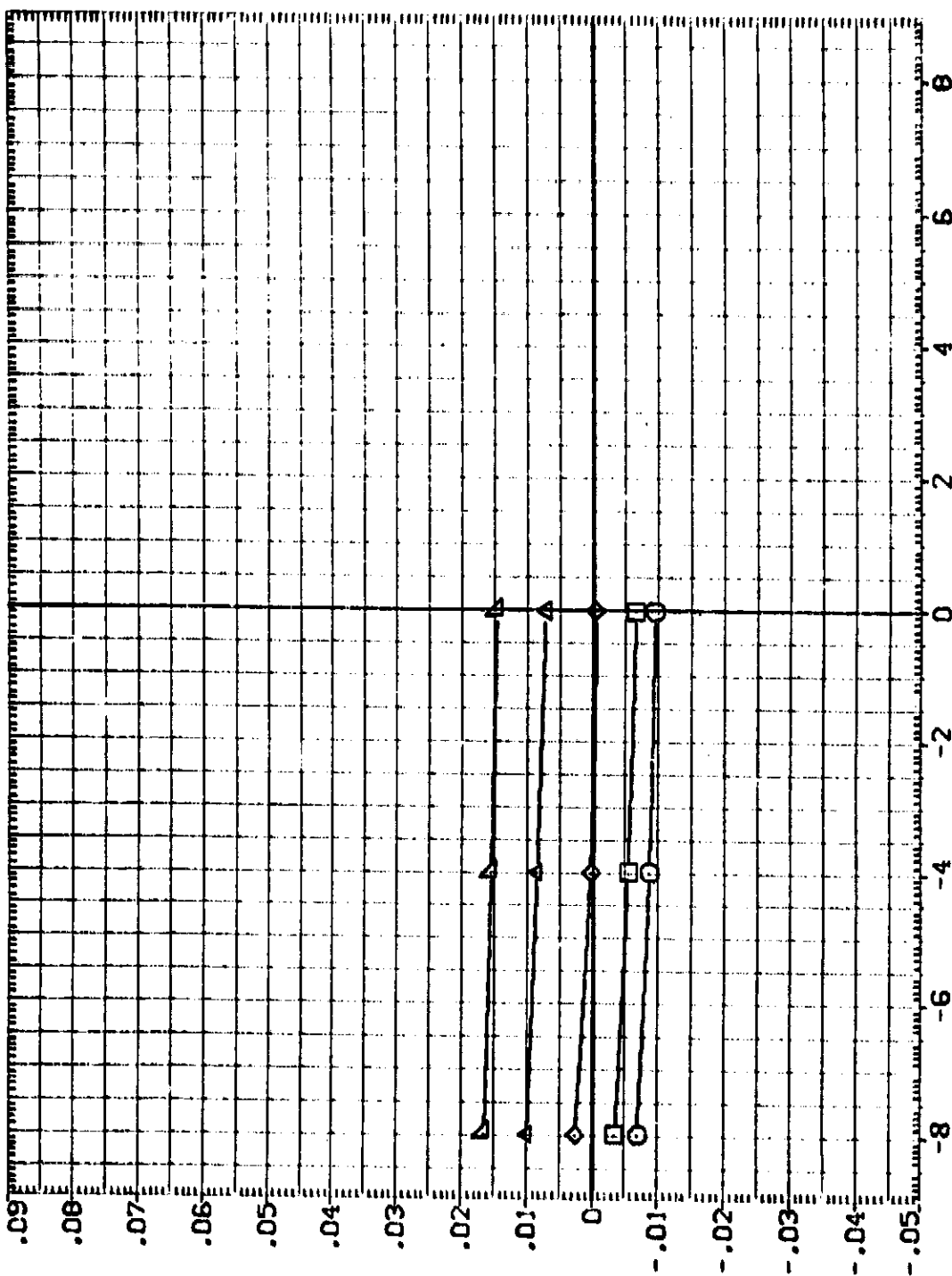
(FBI028)

AMES 97-052 1A110 (01 112 51 P2 P8)

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
		MACH	ELV-18	ELV-08	DATASET	ELV-08	DATASET	SREF	90-FT.				
00	-8.000		1.550		12.000			ELV-08		2680.0000	IN.		
01	-4.000	MM/L	2.500	BOFLAP	.000	FE1028	-8.000	FE1028	REF	474.8100	IN.		
02									PROP	936.5800	IN.		
03									PROP	979.0000	IN.		
04									PROP	979.0000	IN.		
05	4.000	SPOBARK	.000	BLUNDER	.000	FE1023			PROP	400.0000	IN.		
06		BETA	999.000						ZPROP	.0150	IN.		
07	8.000								SCALE				

AMES 97-052 [A110 (01 112 S1 P2 P8) (FE1028)]

SYMBOL	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
	ALPHA	MACH	ELV-08	ELV-09	LINE	50 FT.
□	-8.000	1.550	12.000	FE1028	285C.0000	IN.
◇	-4.000	2.500	.000	FE1028	474.8100	IN.
△	.000	.000	.000	FE1023	556.6900	IN.
▽	4.000	589.000	.000	FE1023	979.0000	IN.
	8.000				400.0000	IN.
					SCALE	.0150



RIGHT WING TORSIONAL MOMENT COEFFICIENT, CTW-R

FIG. 10 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = 12.0

AMES 97-052 IA110 (01 T12 S1 P2 P8) (FE1027)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000	2.000	ELV-IB	12.000 DATASET	2850.0000
◇	-4.000	2.500	60FLAP	.000 FE1027	474.8100
◇	.000	.000	RUDDER	.000 FE1024	936.8800
◇	4.000	8.000	BETA	959.000	979.0000
					0.0000
					400.0000
					0.050
					SCALE

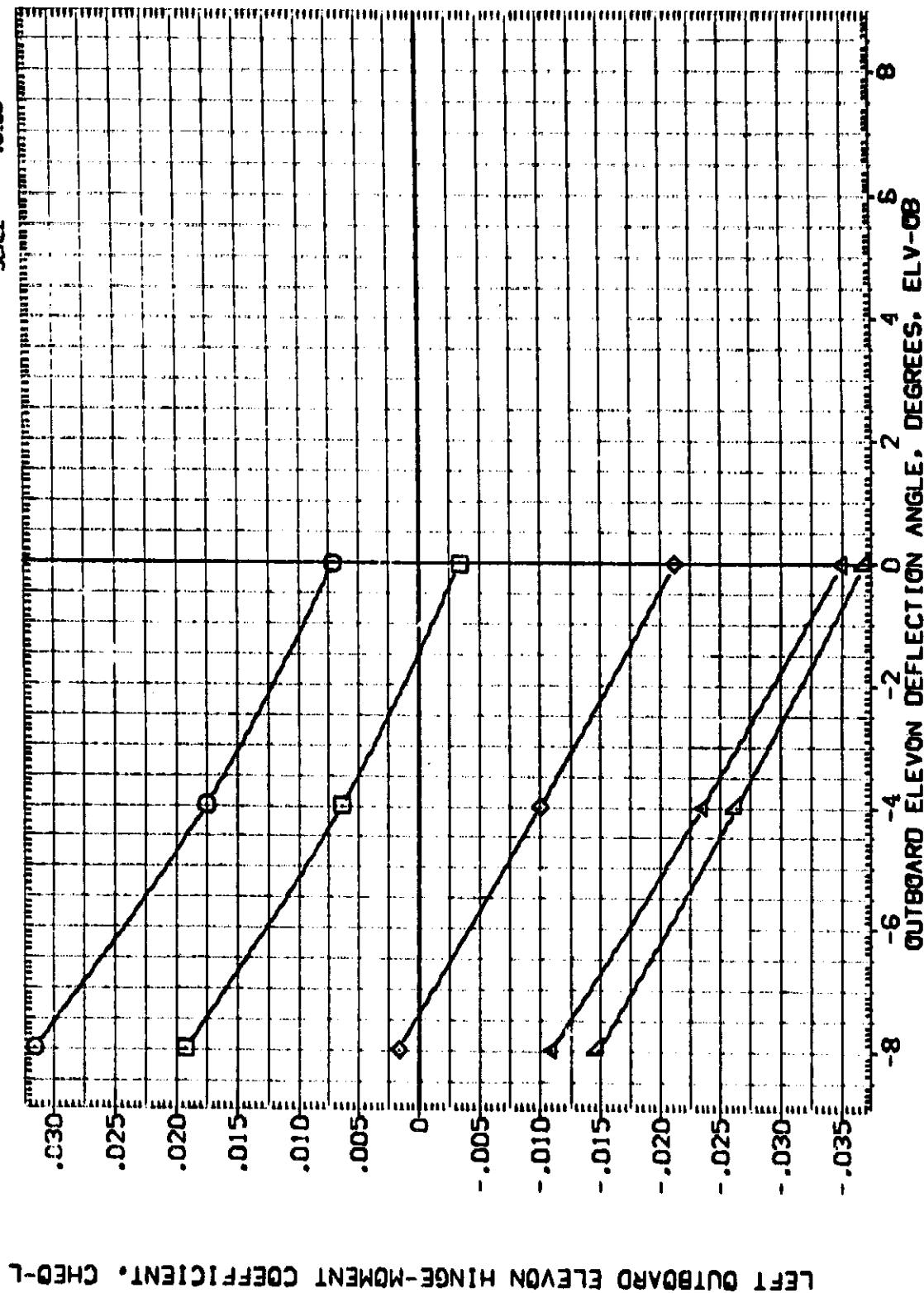


FIG. 11 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-IB = 12.0

SYMBOL	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
	ALPHA	MACH	BOFLAP	RUDDER	ELV-OB	FE1027	ELV-OB	FE1027	REF	50 FT.
□	-8.000	2.000	2.500	.000	-8.000	.000	-4.000	.000	474.8100	IN.
◇	-4.000	2.500	.000	.000	-8.000	.000	-4.000	.000	936.6800	IN.
△	4.000	2.000	.000	.000	-8.000	.000	-4.000	.000	979.0000	IN.
▽	8.000	2.500	.000	.000	-8.000	.000	-4.000	.000	400.0000	IN.
									SCALE	.0150



FIG. 11 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-19 = 12.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1027)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	-8.000	2.000	ELV-IB	12.000	2880.0000
◇	-4.000	2.500	BDFLAP	.000	474.8100
◇	0.000	.000	RUDDER	FE1027	936.6800
◇	4.000	.000		FE1024	979.7000
◇	8.000	.000			979.7000
		999.000			400.0000
					SCALE
					.0150

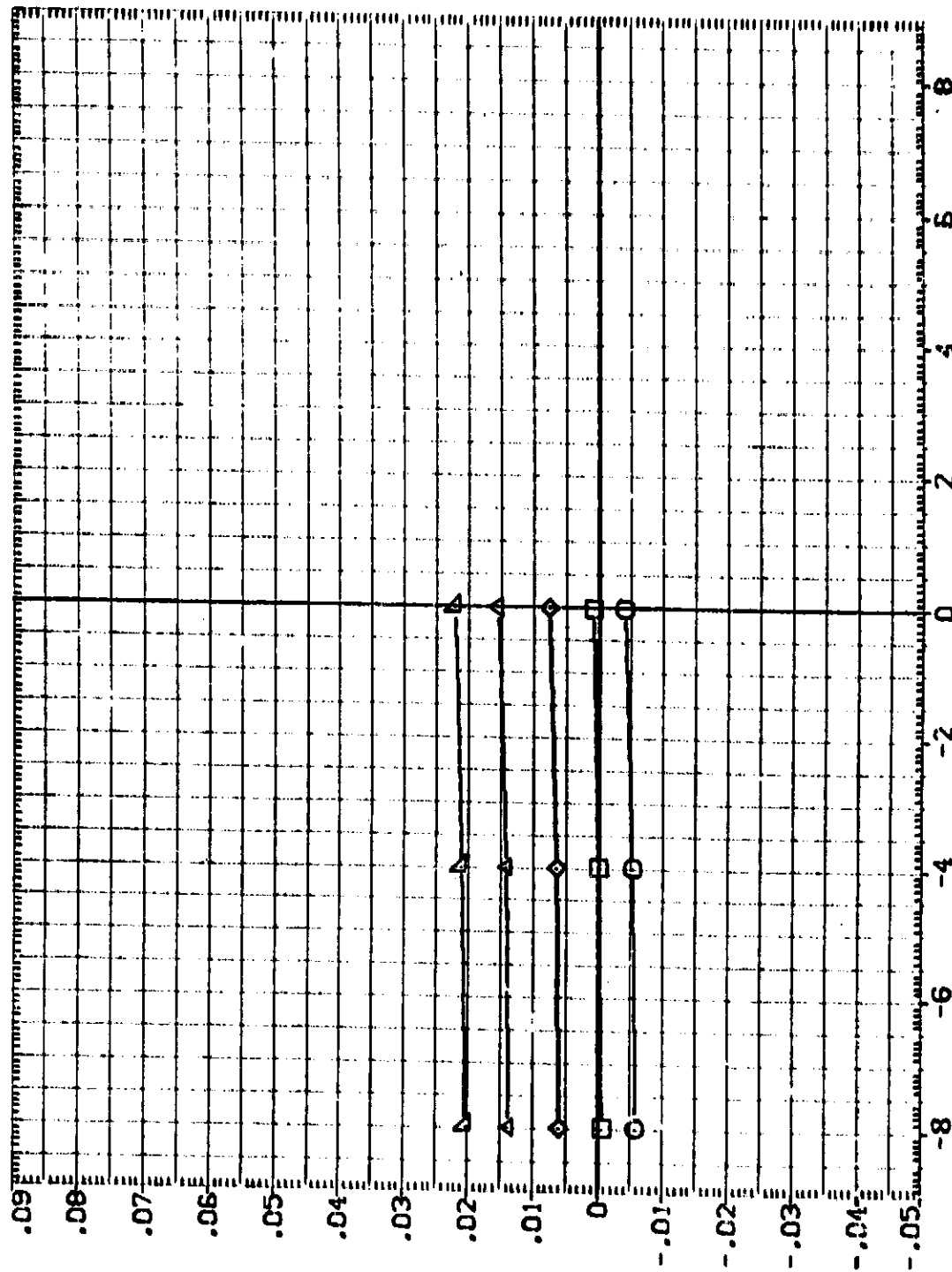


FIG. 1.1 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-IB = 12.0

REFERENCE INFORMATION
 2590.0000 587F
 474.8100 1N-
 536.8800 1N-
 579.5710 1N-
 400.0000 1N-
 0.0150 1N-
 SCALE

DATA SOURCE
 ELV-09
 FE1025
 FE1024

PARAMETRIC VALUES
 ELV-19
 90FLAP
 RUDDER

ALPHA
 -8.000
 -4.000
 0.000
 4.000
 8.000

SYMBOL
 O
 I
 A
 V

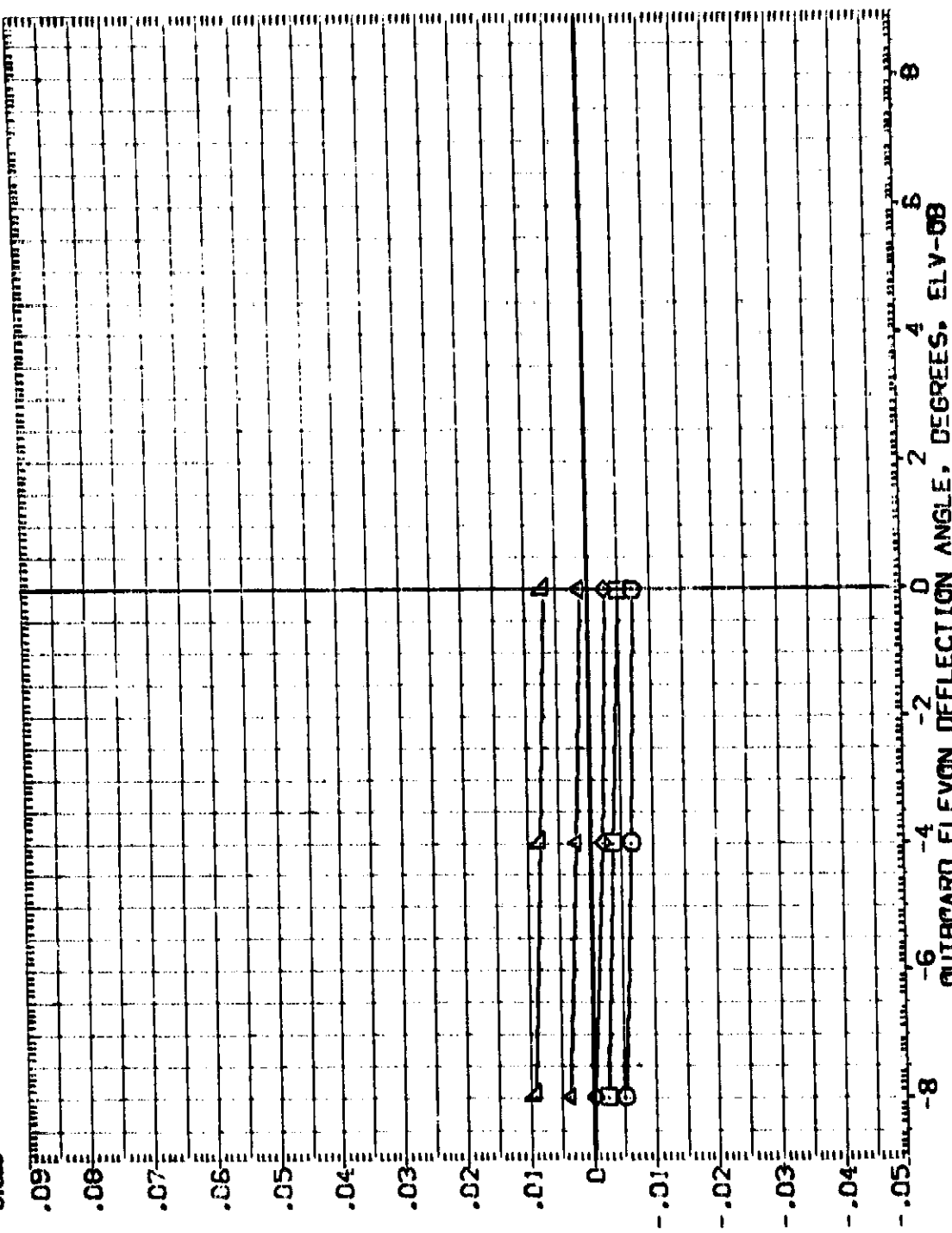


FIG. 11 EFFECT OF OUTBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-18 = 12.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1013)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
◇	-8.000	1.550	ELV-08	ELV-08	2880.0000
◇	-4.000	2.500	BUFLAP	FE1013	474.8100
◇	.000	.000	RUDDER	9.000	506.8800
◇	4.000	999.000	BETA	.000	579.0000
				SCALE	400.0000
					IN. FT

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{HO-L}

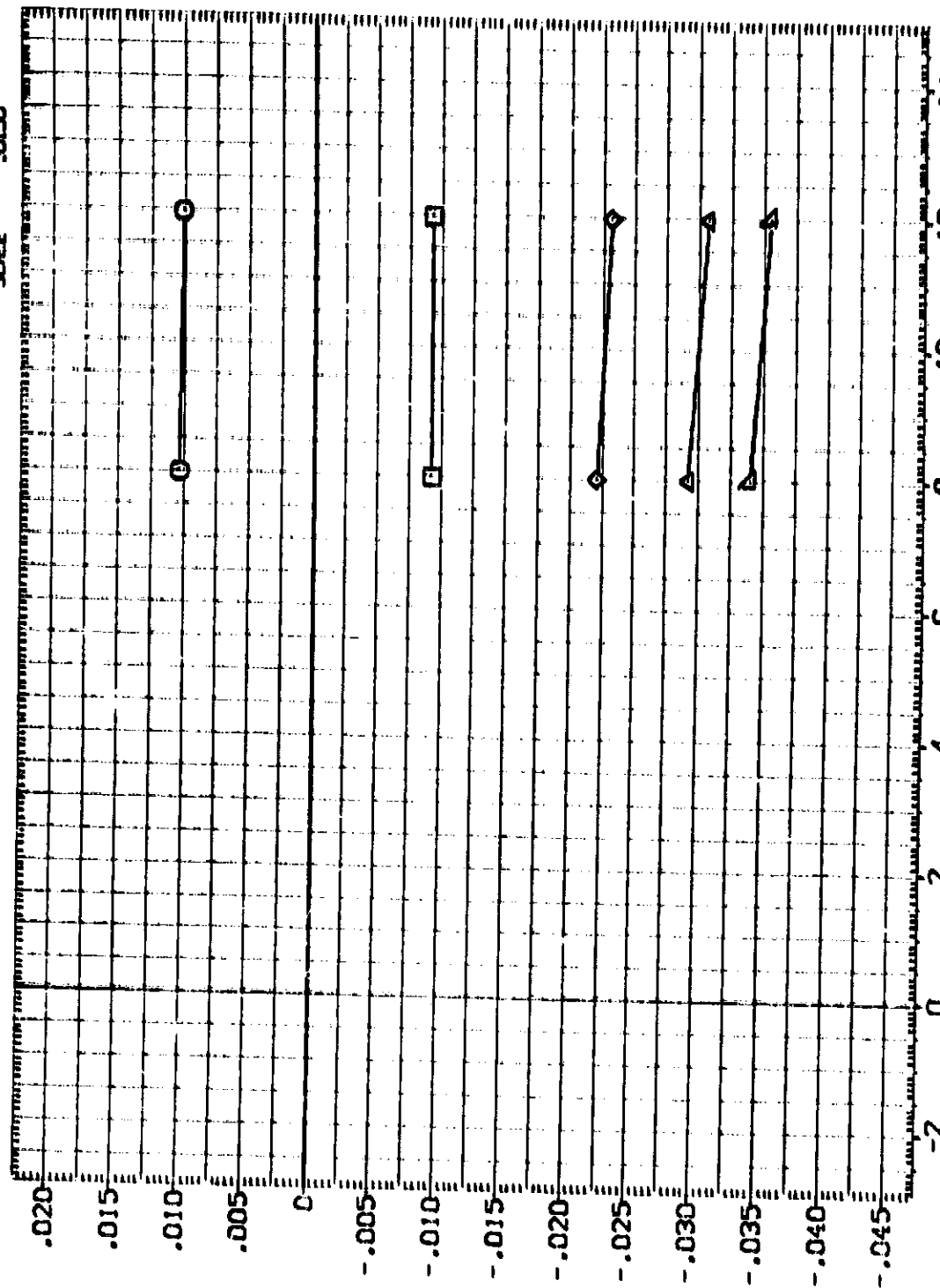


FIG. 12 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = 0.0

SYMBOL
 ○ □ ◇ △

ALPHA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.550
 2.500
 .000
 999.000

PARAMETRIC VALUES
 ELV-BU
 80FLAP
 1.000R

DATA SOURCE
 DATASET
 FE1013
 .000

REFERENCE INFORMATION
 SREF 2680.0000
 IREF 474.8100
 PREP 536.6800
 XREF 579.0000
 YREF .0000
 ZREF 400.0000
 SCALE .0150

LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHEI-L

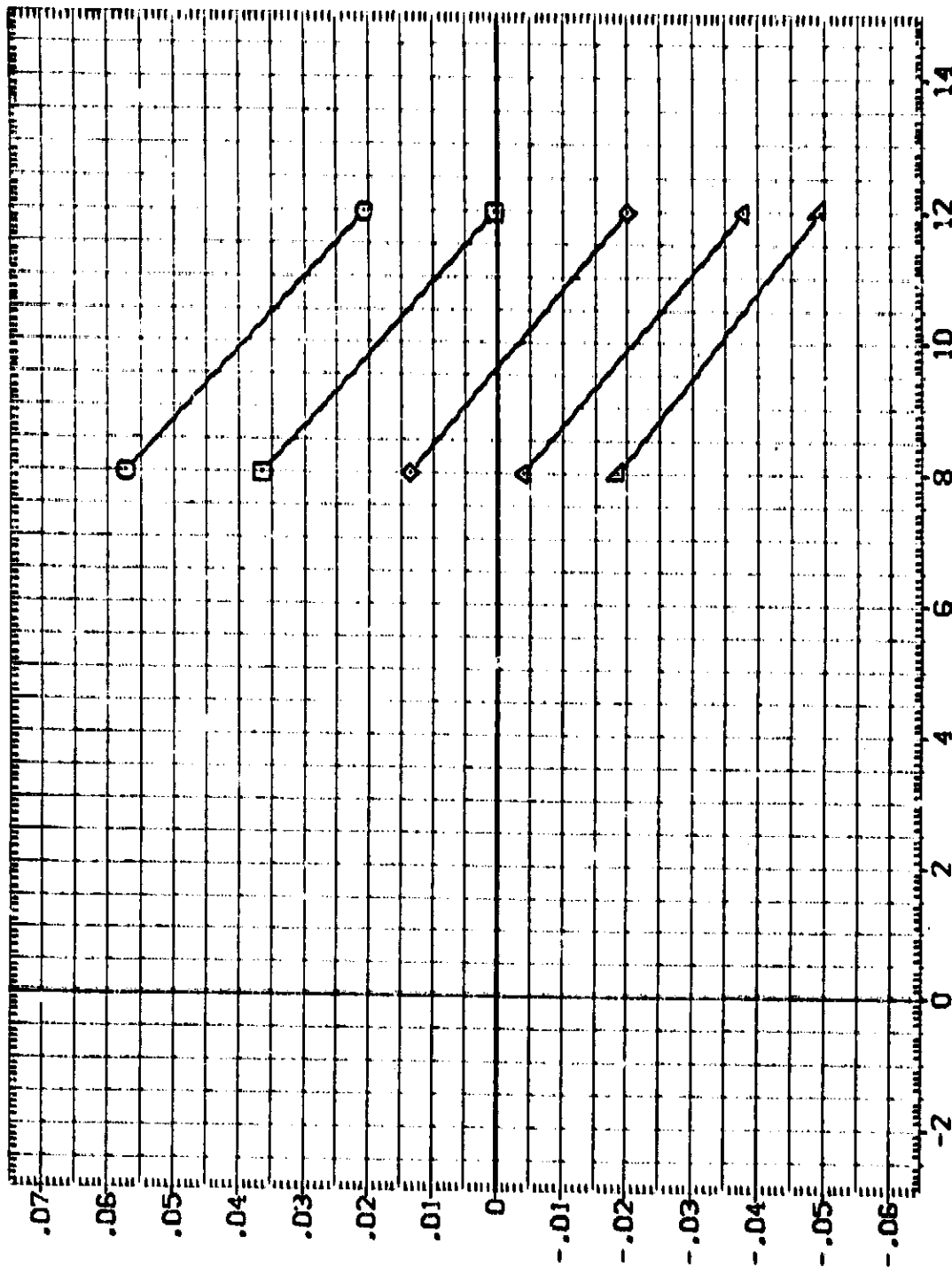
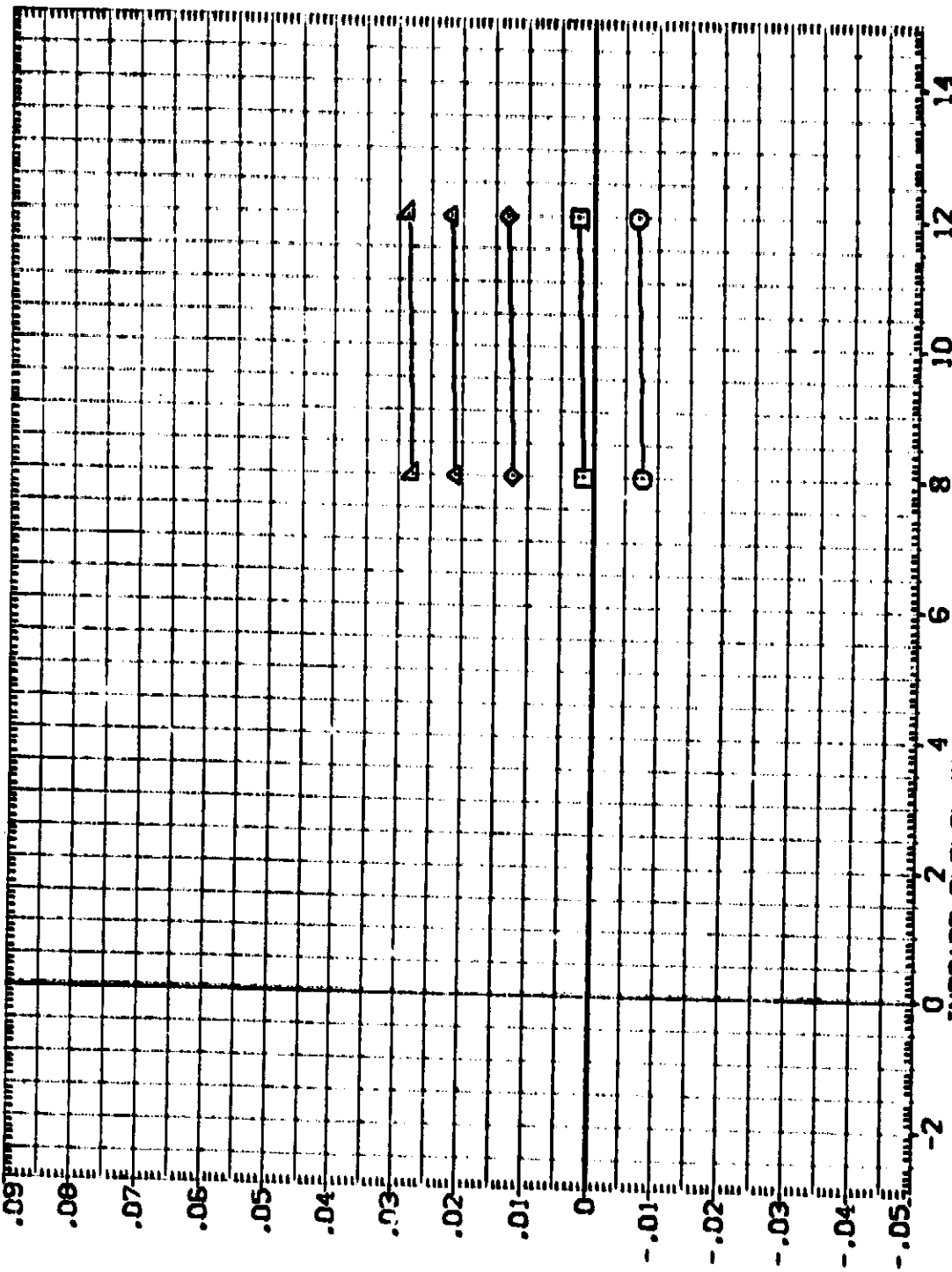


FIG. 12 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-OB = 0.0

AMES 97-052 [A110 (G1 T12 S1 P2 P8) (FE1013)]

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	ELV-08	ELV-18	REF	SR.FT.
-8.000	1.550	.000	FE1013	LINEF	2880.0000
-4.000	2.500	.000	FE1013	REF	474.9100
.000	.000	.000	FE1013	REF	536.6800
4.000	.000	.000	FE1013	REF	579.0000
8.000	.000	.000	FE1013	REF	600.0000
				SCALE	.0150



RIGHT WING BENDING MOMENT COEFFICIENT, CBW-R

FIG. 12 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = 0.0

(FEI012)

SPEED	ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	-8.000	MACH 2.000 ELV-08	DATASET .000 ELV-18	BREF 2690.0000 SQ.FT.
1	-4.000	RH/L 2.500 BOFL-IP	.000 FE101Z 8.000	LREF 474.8000 IN.
2	0	SPUBK .000 RUDDER	.000	BREF 936.6800 IN.
3	4.000	BETA 999.000		XTRP 579.0000 IN. XT
4				YTRP .0000 IN. YT
5				ZTRP 400.0000 IN. ZT
				SCALE .0050

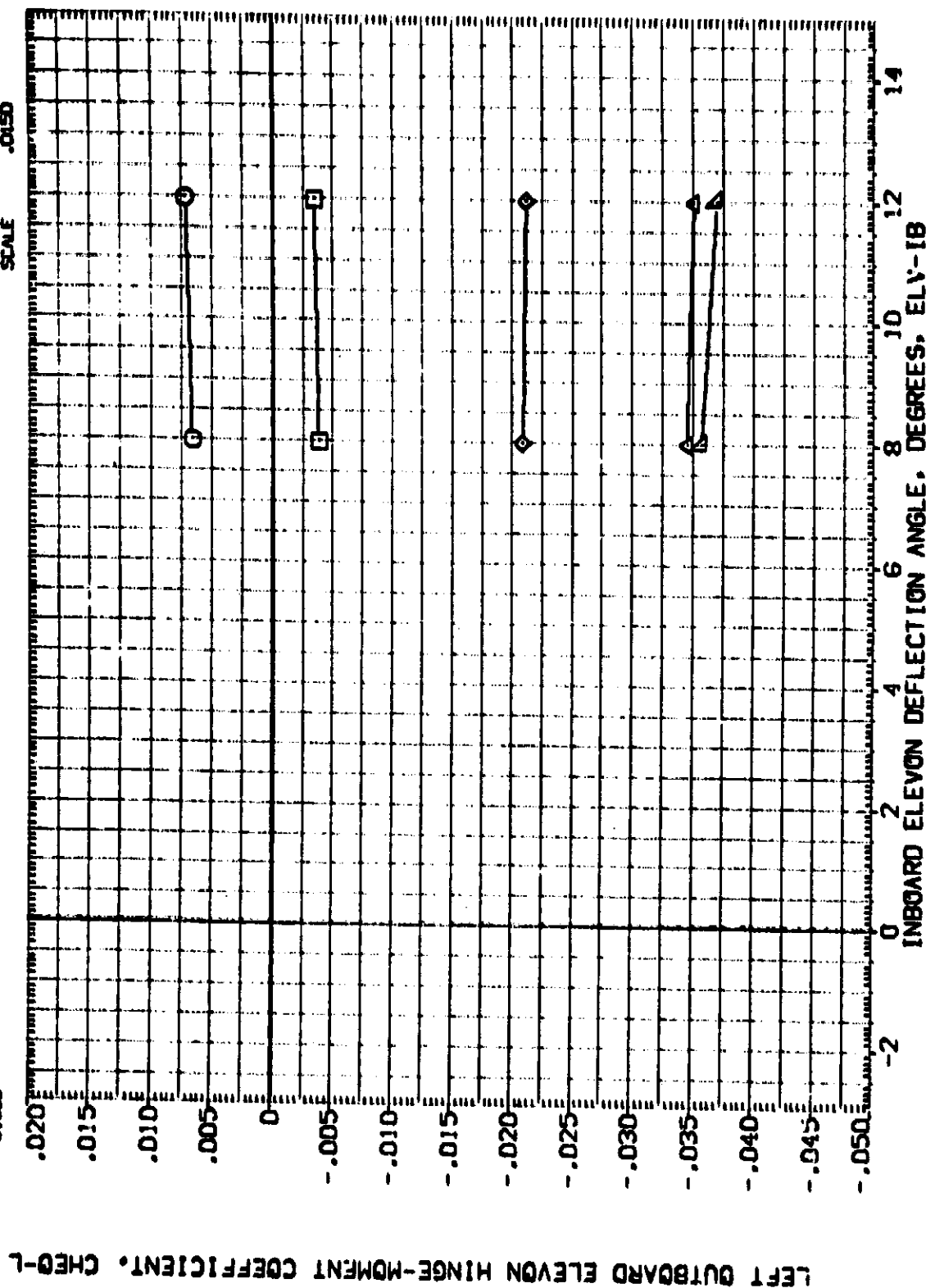


FIG. 13 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-OB = 0.0

(FE1012)

AMES 97-052 IA110 (01 112 S1 P2 P8)

REFERENCE INFORMATION
 50. FT.
 2580.0000
 474.8100
 596.6900
 979.0000
 400.0000
 .0150

DATA SOURCE
 ELV-IB
 FE1024
 8.000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELV-08
 2.000
 2.500
 .000
 999.000

ALPHA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .000
 .000
 .000
 .000
 .000

SP080K
 BETA
 .000
 .000
 .000
 .000
 .000

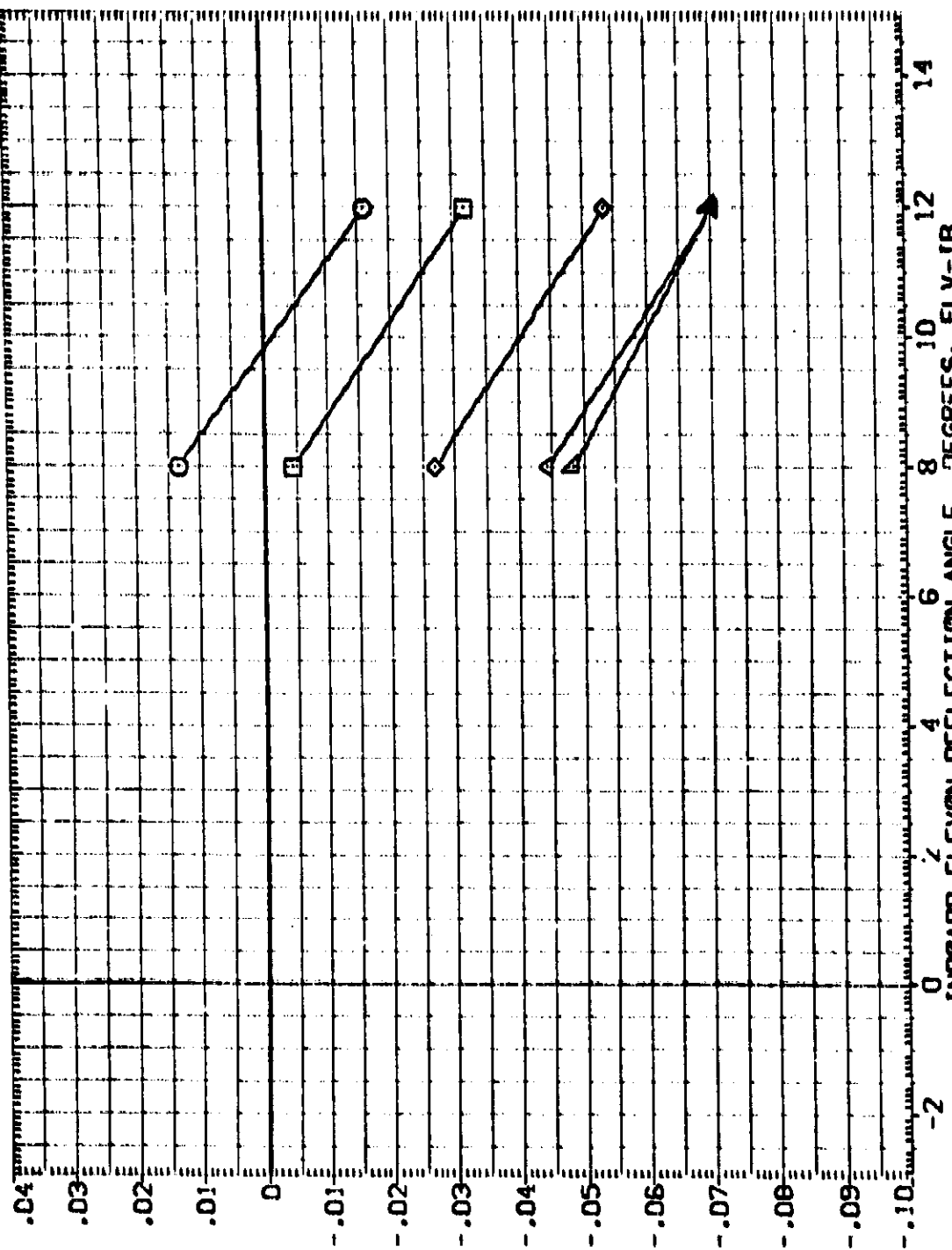


FIG. 13 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-08 = 0.0

(FE1012)

AMES 97-052 1A110 101 D11V1 250 3AM
C Bd Z4 15 211 101 D11V1 250 3AM

REFERENCE INFORMATION	
760.000	50 FT.
474.8100	IN.
955.6200	IN.
979.0000	IN.
400.0000	IN.
0150	IN.

DATASET	ELV-18	SNEF
FILE	12.000	LNEF
		SNEF
		XREF
		YREF
		ZREF
		SCALE

DATA SOURCE
ELY-IB
8.000

```

      .000 DATASET
      .000 FE1012
      .000

```

PARAMETRIC VALUES
2.000 ELV-DB
2.500 BOFLAP
.000 RUDDER
999.000

31-0
MACH
RM/L
SPDRBK
BETA

APR	ALP-M
0.000	
4.000	
0.000	
4.000	
0.000	

SUB 00044

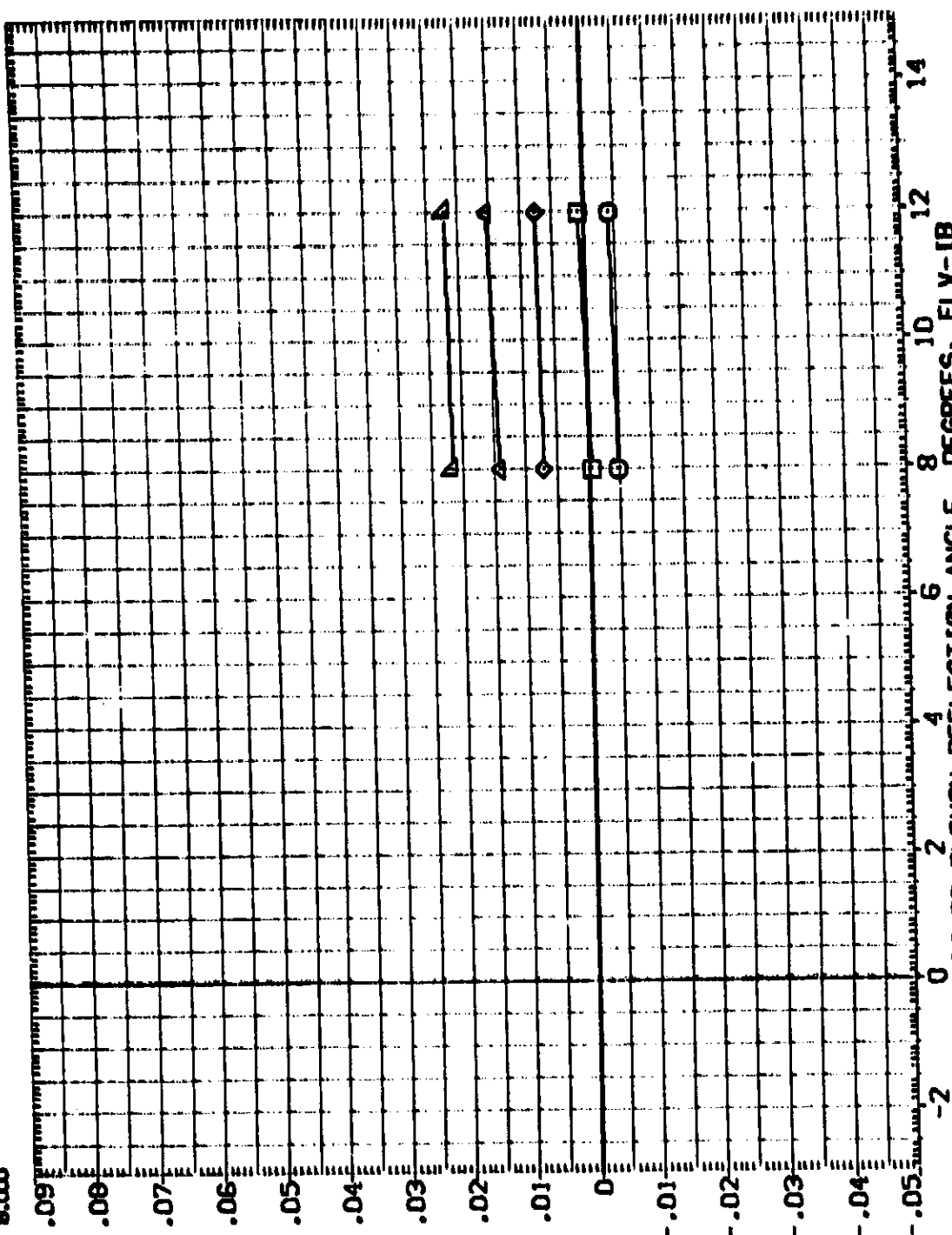


FIG. 13 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-08 = 0.0

(FE1012)

AMES 97-052 IAL10 (01 112 S1 P2 P8)

REFERENCE INFORMATION
 2550.0000
 474.8100
 596.6800
 979.0000
 400.0000
 .0150

SREF
 LREF
 BREF
 YREF
 ZREF
 SCALE

DATA SOURCE

.000 DATASET ELV-IB
 .000 FE1012 8.000
 .000 FE1012 12.000

PARAMETRIC VALUES

2.000 ELV-OB
 2.500 BOFLAP
 .000 RUDDER
 9999.000

MACH
 RNZ
 SPDRK
 BETA

SYMBOL
 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 A
 B
 C
 D
 E
 F
 G
 H
 I
 J
 K
 L
 M
 N
 O
 P
 Q
 R
 S
 T
 U
 V
 W
 X
 Y
 Z

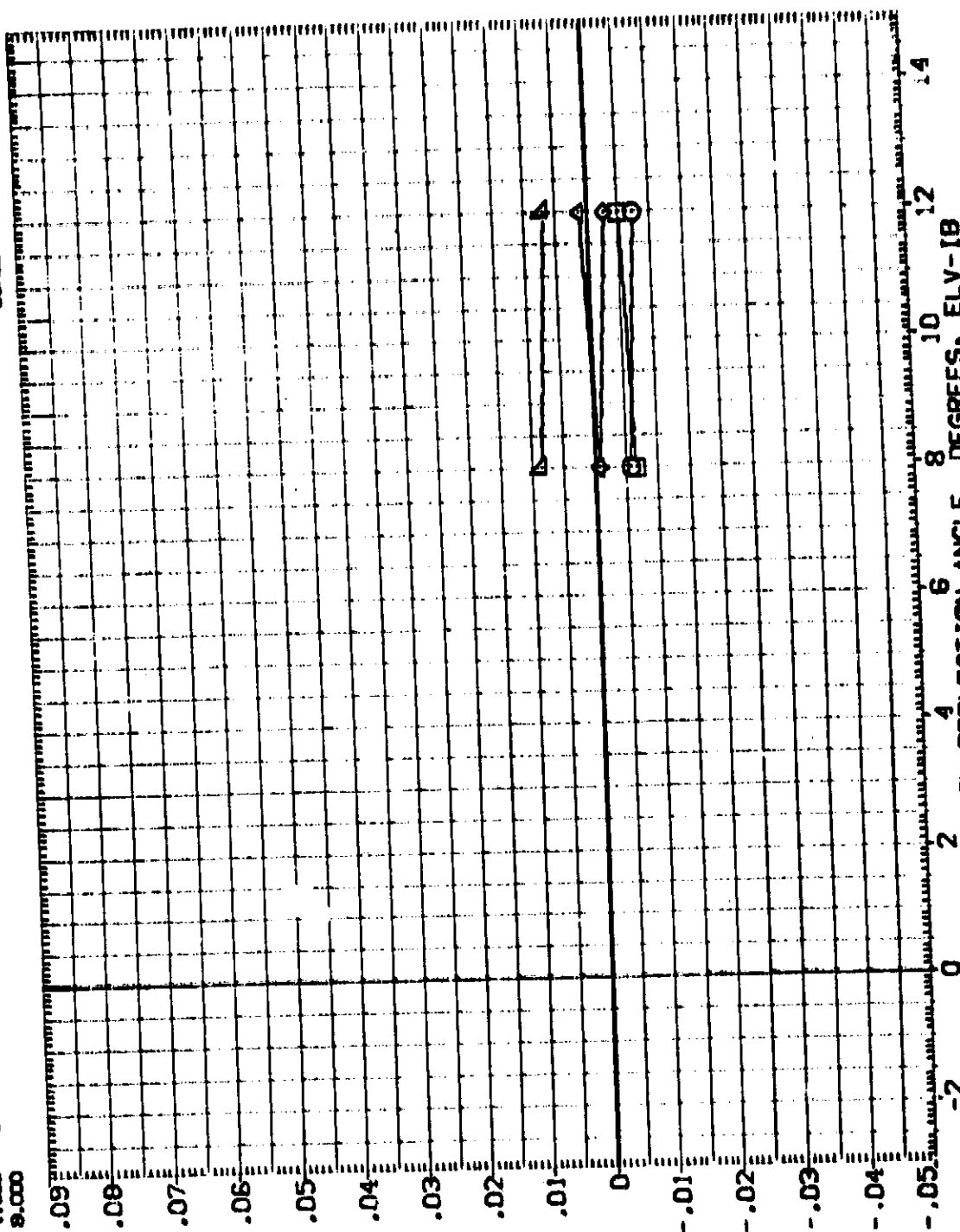


FIG. 13 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-OB = 0.0

AMES 97-052 (A110 (01 T12 S1 P2 P8) (FE1005)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	-8.000	1.550	ELV-08	-4.000 DATASET	2680.0000
◇	-4.000	2.500	80FLAP	8.000 ELV-08	474.8100
◇	.000	.000	RUDGER	.000 FE1005	535.6800
◇	4.000	.000	BETA	.000	979.0000
◇					400.0000
					400.0000
					SCALE .0150



FIG. 14 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = -4.0

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
□	-8.000	1.550	ELV-08	-4.000 DATASET ELV-18	2890.0000 SREF
◇	-4.000	2.500	80FLAP	.000 FE1005	474.8100 LREF
◇	.000	.000	RUDDER	.000	935.5800 BREF
△	4.000	500.000	BETA	.000	979.0000 XREF
△					400.0000 YREF
					SCALE .0150

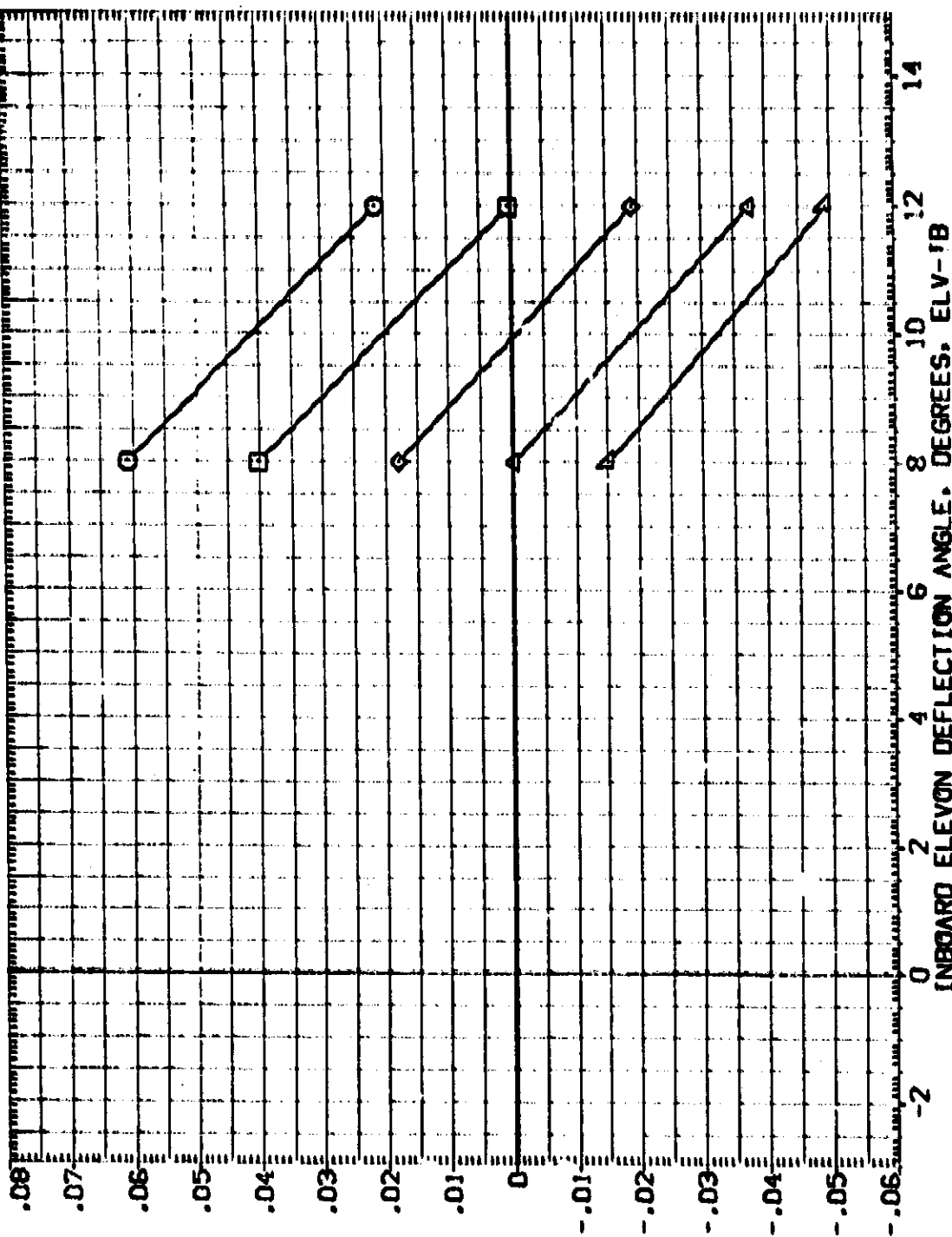


FIG. 14 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = -4.0

AMES 97-052 IA110 (01 112 S1 P2 P8) (FE1005)

SPEED		ALPHA	PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION		
<input type="checkbox"/>	<input type="checkbox"/>	-8.000	MACH	1.550	ELV-OB	-4.000	DATASET	ELV-OB	SNREF	2850.0000
<input type="checkbox"/>	<input type="checkbox"/>	-4.000	W/L	2.500	BUFLAP	.000	FE1005	8.000	LREF	474.0000
<input checked="" type="checkbox"/>	<input type="checkbox"/>	.000	SPDRBK	.000	RUDER	.000			BRF	955.5800
<input type="checkbox"/>	<input type="checkbox"/>	4.000	BETA	959.000					YREF	979.0000
<input type="checkbox"/>	<input type="checkbox"/>	9.000							YREF	400.0000
									SCALE	.0150

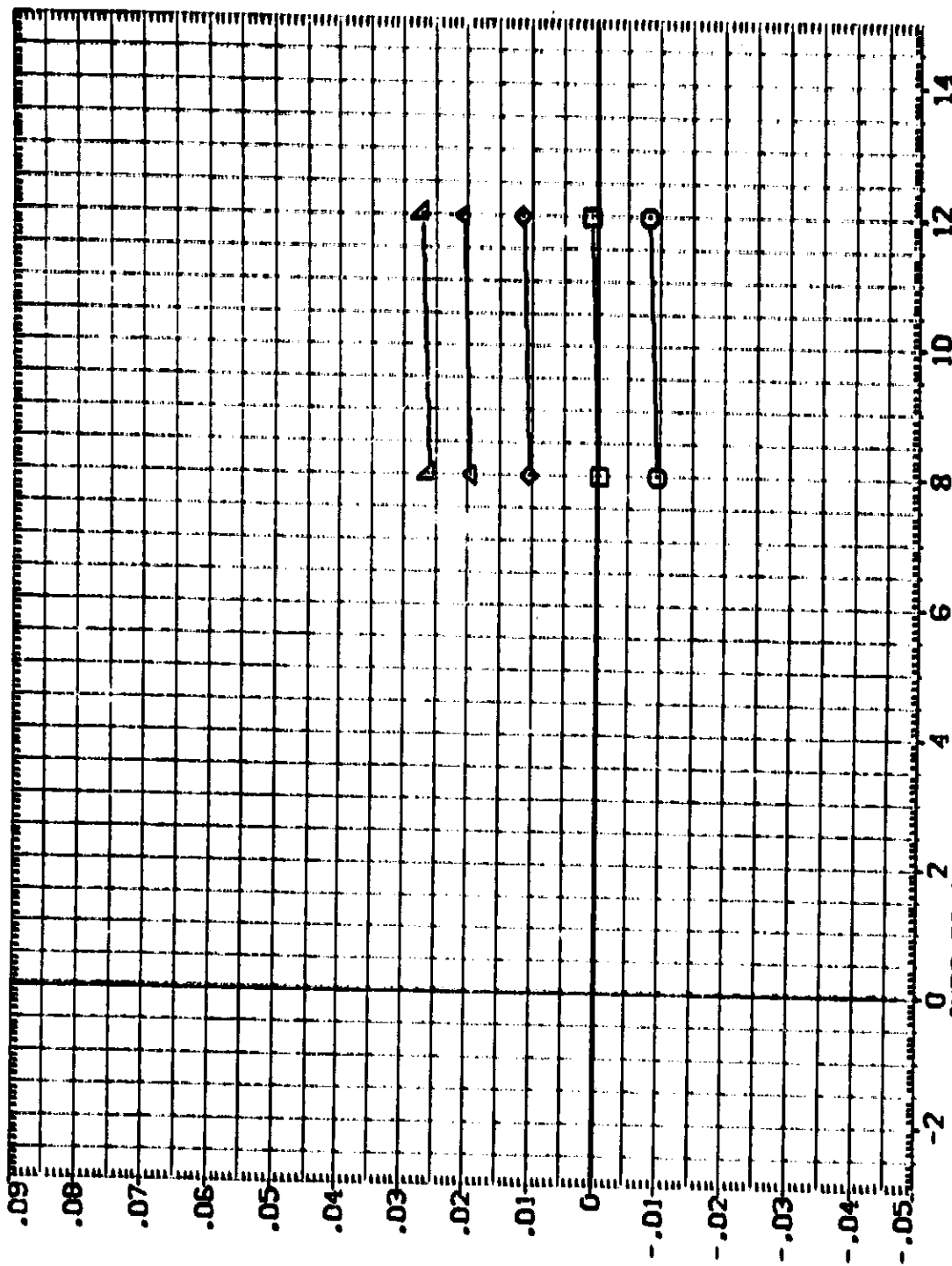


FIG. 14 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-OB = -4.0

AMES 97-052 [A110 (01 T12 S1 P2 P8) (FE1005)]

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	ELV-IB	DATASET	ELV-IB	REFERENCE INFORMATION
□	-8.000		1.550	-4.000	9.000	FE1005	12.000	2650.0000
□	-4.000		2.500	.000				474.8100
◇	.000	SP000K	.000	.000				935.6800
△	4.000	BETA	999.000					979.0000
▽	8.000							400.0000
								SCALE .0150

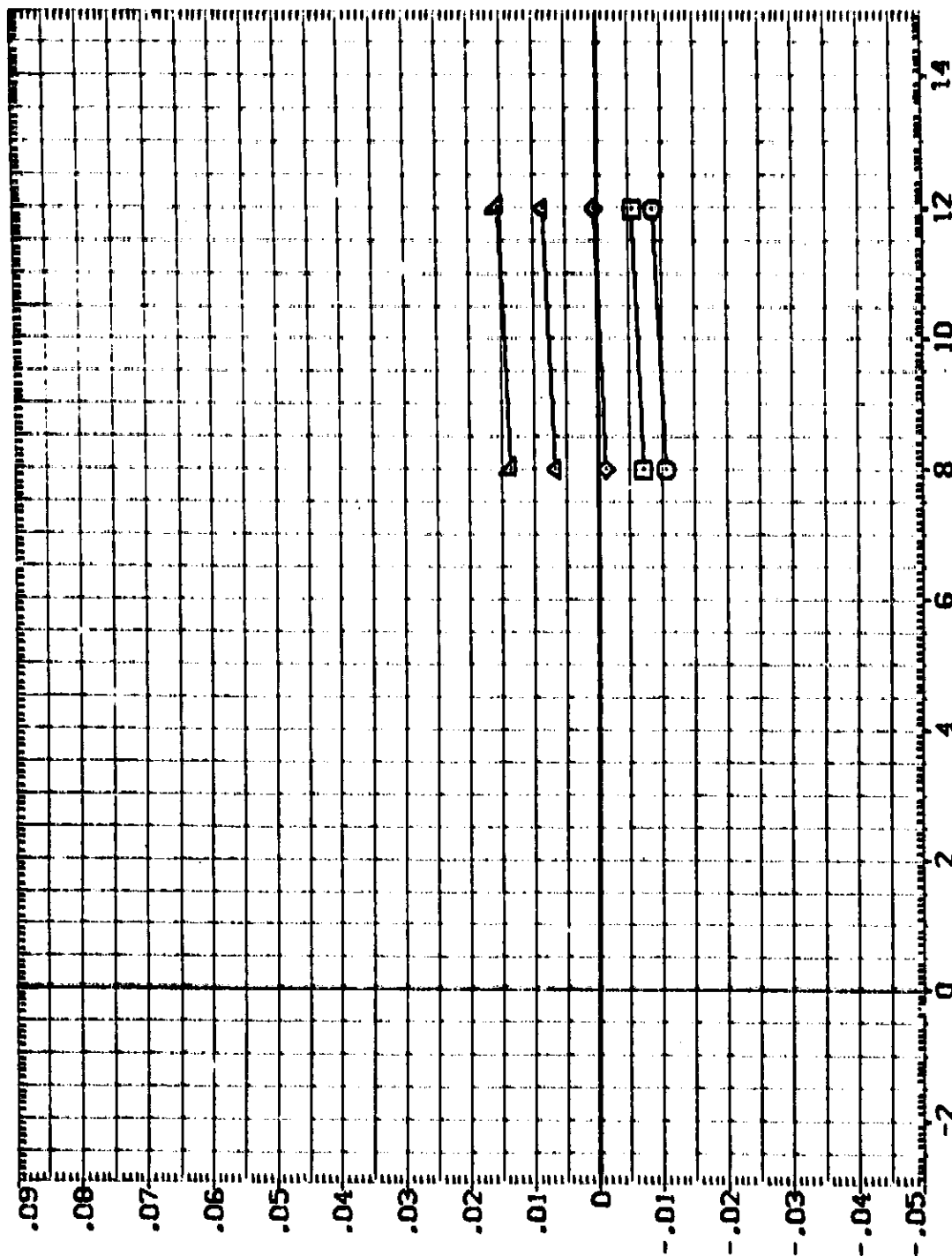


FIG. 14 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-IB = -4.0

REF. INFORMATION
 SREF 2650.0000 SQ.FT.
 REF 474.8100 IN.
 XREF 555.6800 IN.
 YREF 979.0000 IN.
 ZREF 400.0000 IN.
 SCALE .0750

DATA SOURCE
 ELV-IB 12.000
 FE1025

PARAMETRIC VALUES
 ELV-IB 2.000
 BOFLAP 2.500
 RUDDER .000
 999.000

ALPHA
 -8.000
 -4.000
 .000
 4.000

MACH
 .000
 .000
 .000
 .000

LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHEI-L

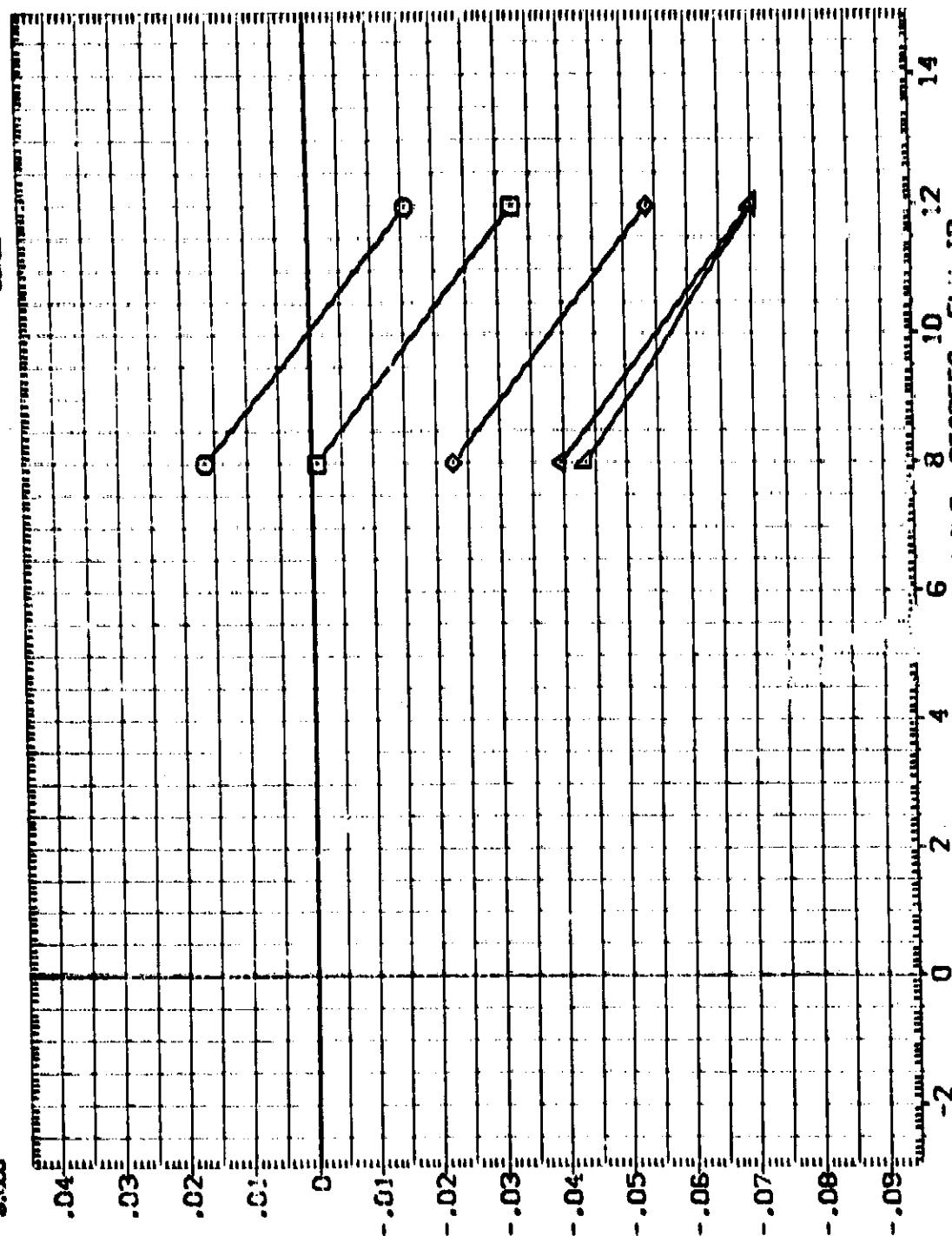


FIG. 15 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-IB = -4.0

AMES 97-052 [A110 (01 112 S1 P2 P8) (FE1003)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	ELV-IB	ELV-IB	REF	REFERENCE INFORMATION
	-8.000		2.000	-4.000	8.000	12.000	SREF	2850.0000
	-4.000		2.500	.000			LREF	474.8000
	.000		.000	.000			BREF	535.6800
	4.000		.000				XREF	979.0000
	8.000		999.000				YREF	.0000
							ZREF	400.0000
							SCALE	.3150
								IN. FT.
								IN. FT.
								IN. FT.
								IN. FT.
								IN. FT.

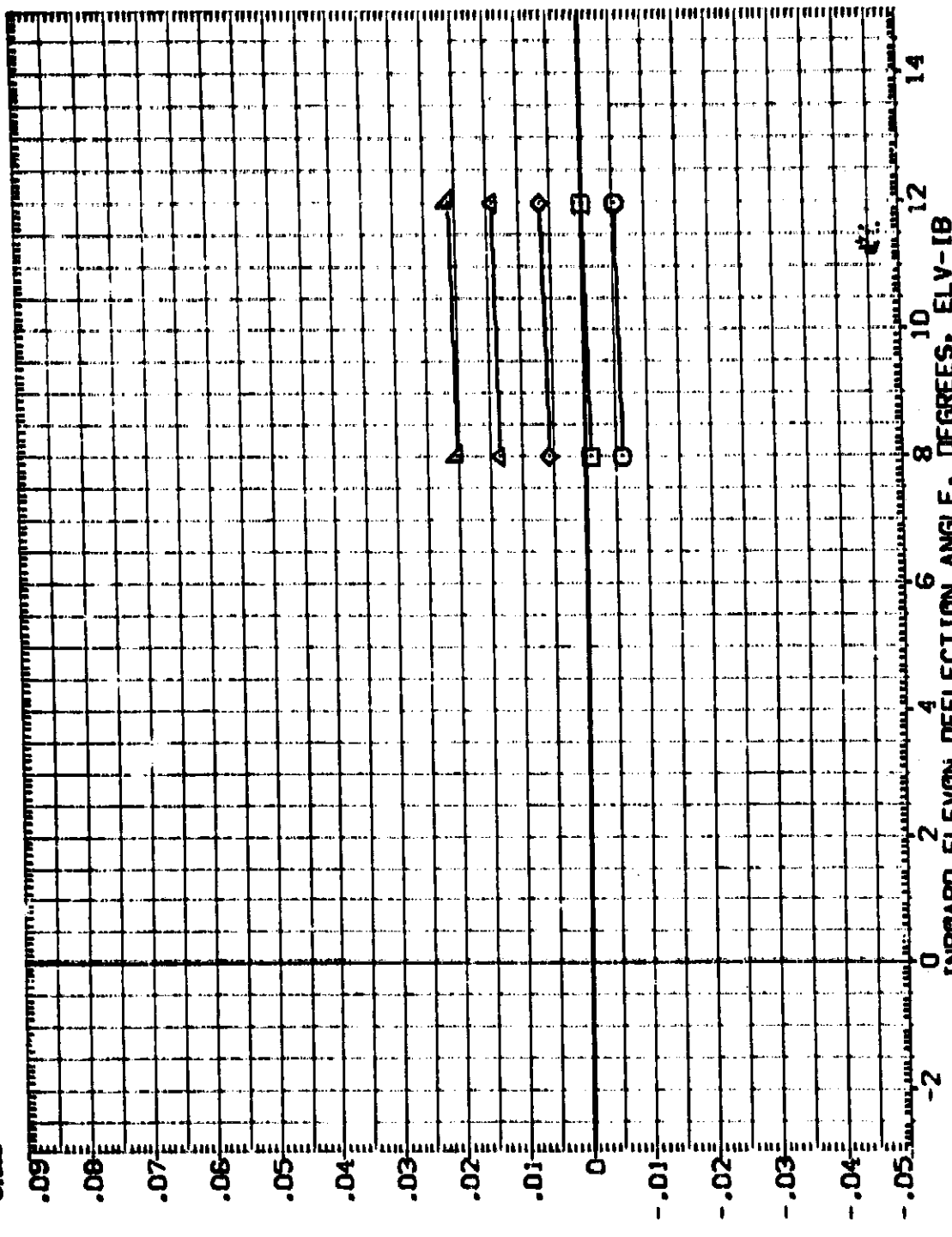
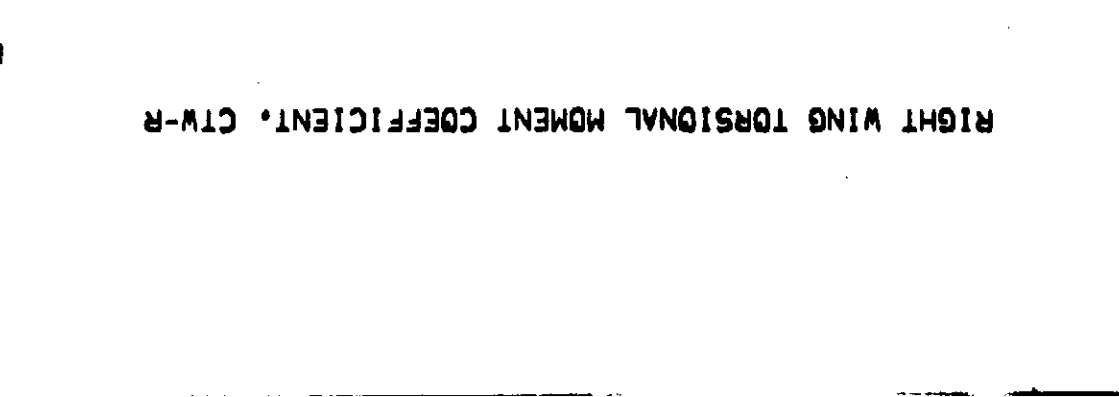


FIG. 15 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-0B = -4.0

SYMBOL	ALPHA
○	-8.000
□	-4.000
◇	.000
△	4.000
▽	8.000



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AMES 97-052 1A110 (01 112 S1 P2 P8) (FE1019)

SYMBOL	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
ALPHA	MACH	ELV-IB	SNREF
-8.000	1.550	-8.000	2800.0000
-4.000	2.500	.000	474.8100
.000	BOFLAP	FE1019	536.6800
4.000	RUDER	.000	579.0000
8.000	SPUBRK		400.0000
	BETA		400.0000
			SCALE
			.0050



FIG. 16 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-IB = -8.0

AMES 97-052 1A110 (01 T12 S1 P2 P8) (FE1C19)

PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
ALPHA	MACH	ELV-OB	BOFLAP	ELV-IB	FE1019	ELV-IB	SREF	2850.0000	92.47	IN.	XT
-0.000	1.550	2.500	.000	8.000	.000	12.000	LINEF	474.8100	IN.	IN.	XT
-4.000	2.500	.000	.000	.000	.000	FE1028	REF	936.6900	IN.	IN.	XT
.000	SP080K	.000	.000	.000	.000	FE1028	REF	979.0000	IN.	IN.	XT
4.000	BETA	999.000	.000	.000	.000	FE1028	REF	400.0000	IN.	IN.	XT
8.000						FE1028	REF	.0150	IN.	IN.	XT

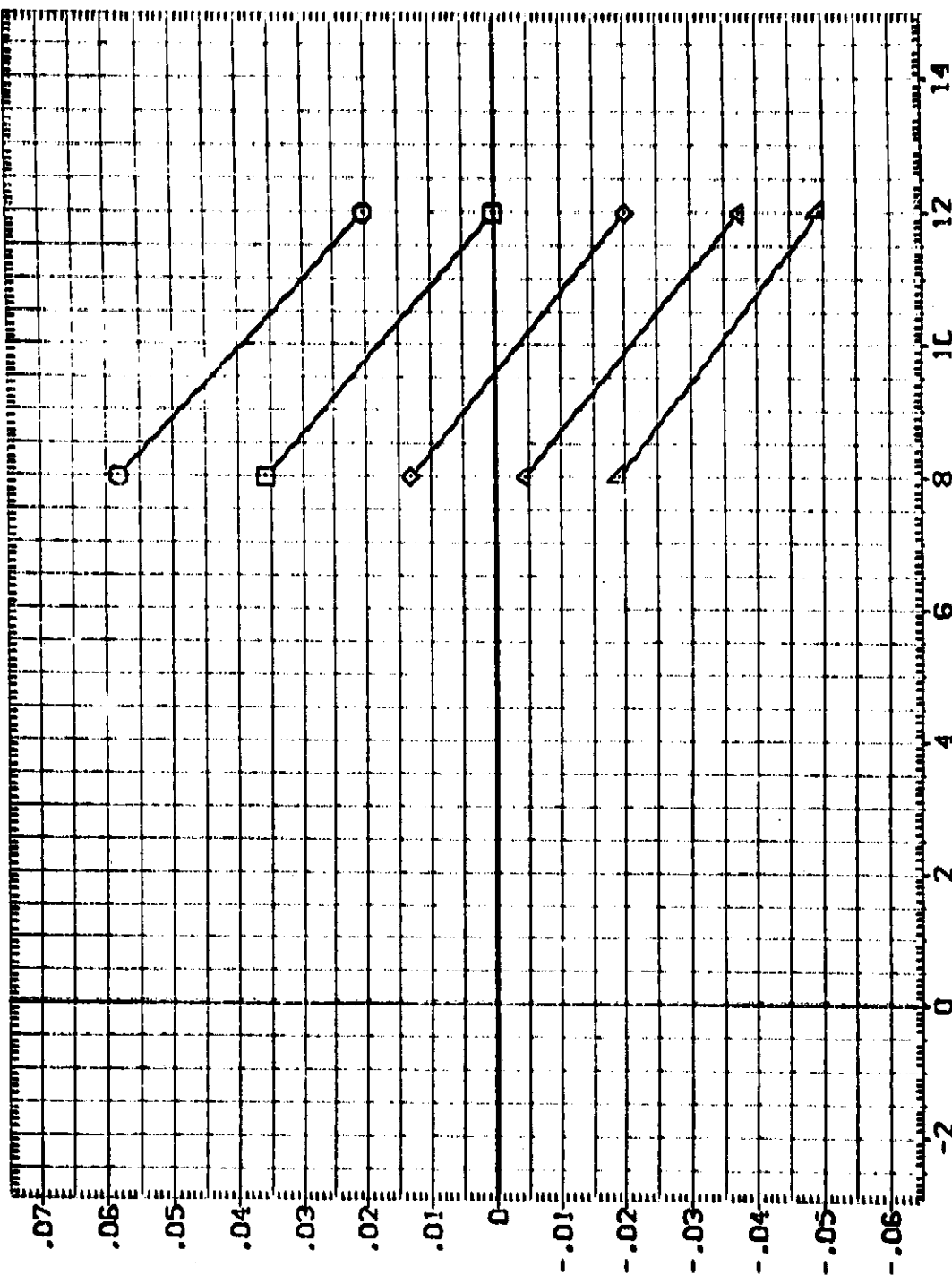


FIG. 16 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-OB = -8.0

AMES 97-052 IAL10 (01 112 S1 P2 P8) (FE1019)

SPED.	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
▽	-8.000	1.550	ELV-08	ELV-IB	2890.0000
◇	-4.000	2.500	80FLAP	FE1028	474.8100
□	.300	.000	RUDDER	FE1028	936.6800
○	4.000	.000		FE1028	979.0000
		BETA		FE1028	0.0000
				FE1028	400.0000
				FE1028	.0150

RIGHT WING TORSIONAL MOMENT COEFFICIENT, C_{TW-R}

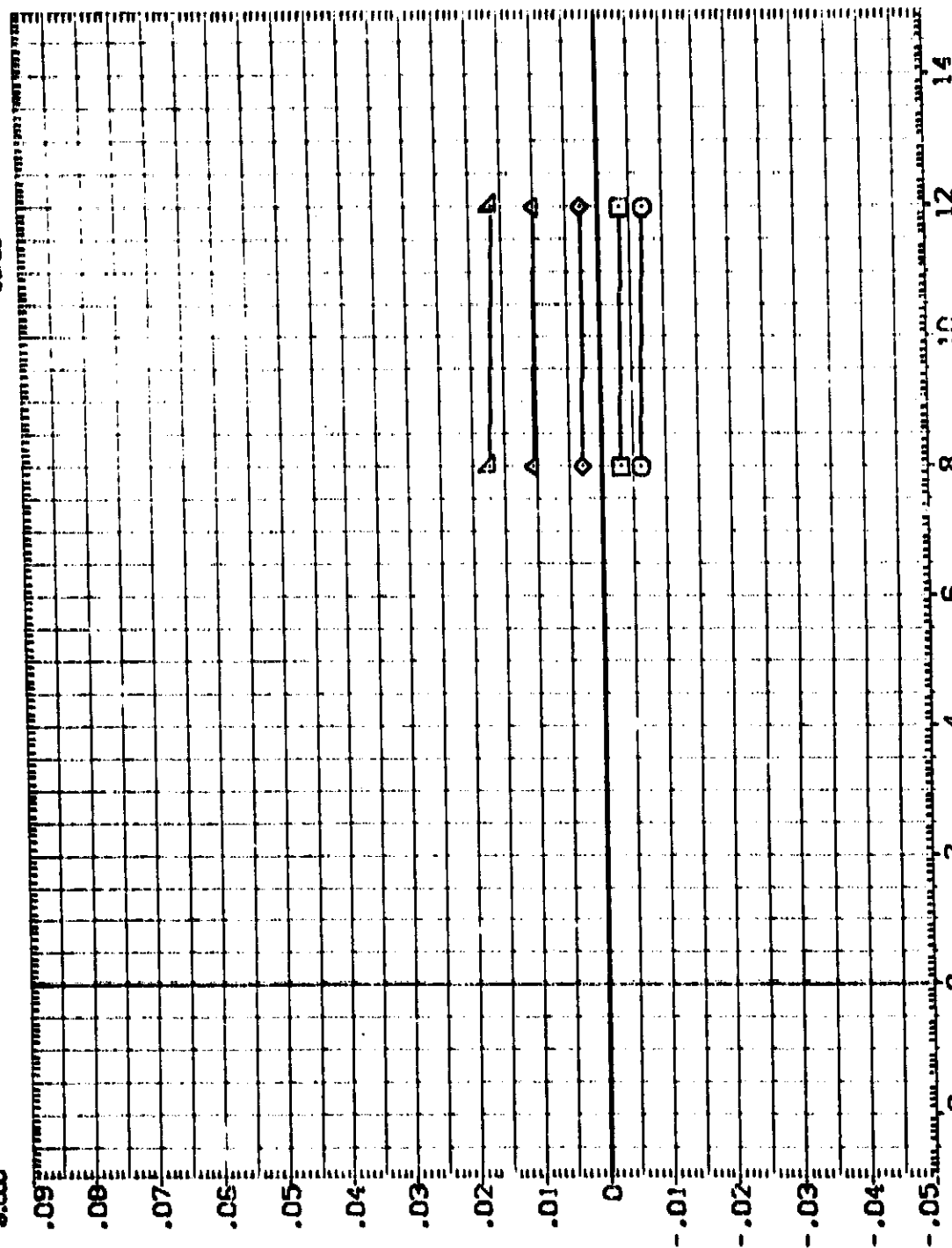


FIG. 16 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 1.55, ELV-08 = -8.0

SYMBOL
 ○ □ ◇ △ ▽

PARAMETRIC VALUES
 MACH 2.000 ELV-08 8.000
 RW/L 2.500 80FLAP .000
 SPDRSK .000 RUDDER .000
 BETA 999.000

DATA SOURCE
 DATASET ELV-IB
 -8.000 DATASET ELV-IB
 .000 FE1018 8.000

REFERENCE INFORMATION
 SREF 2880.0000 SQ.FT.
 LREF 474.8100 IN.
 BREF 936.6800 IN.
 XWRP 979.0000 IN.
 YWRP .0000 IN.
 ZWRP 400.0000 IN.
 SCALE .0150

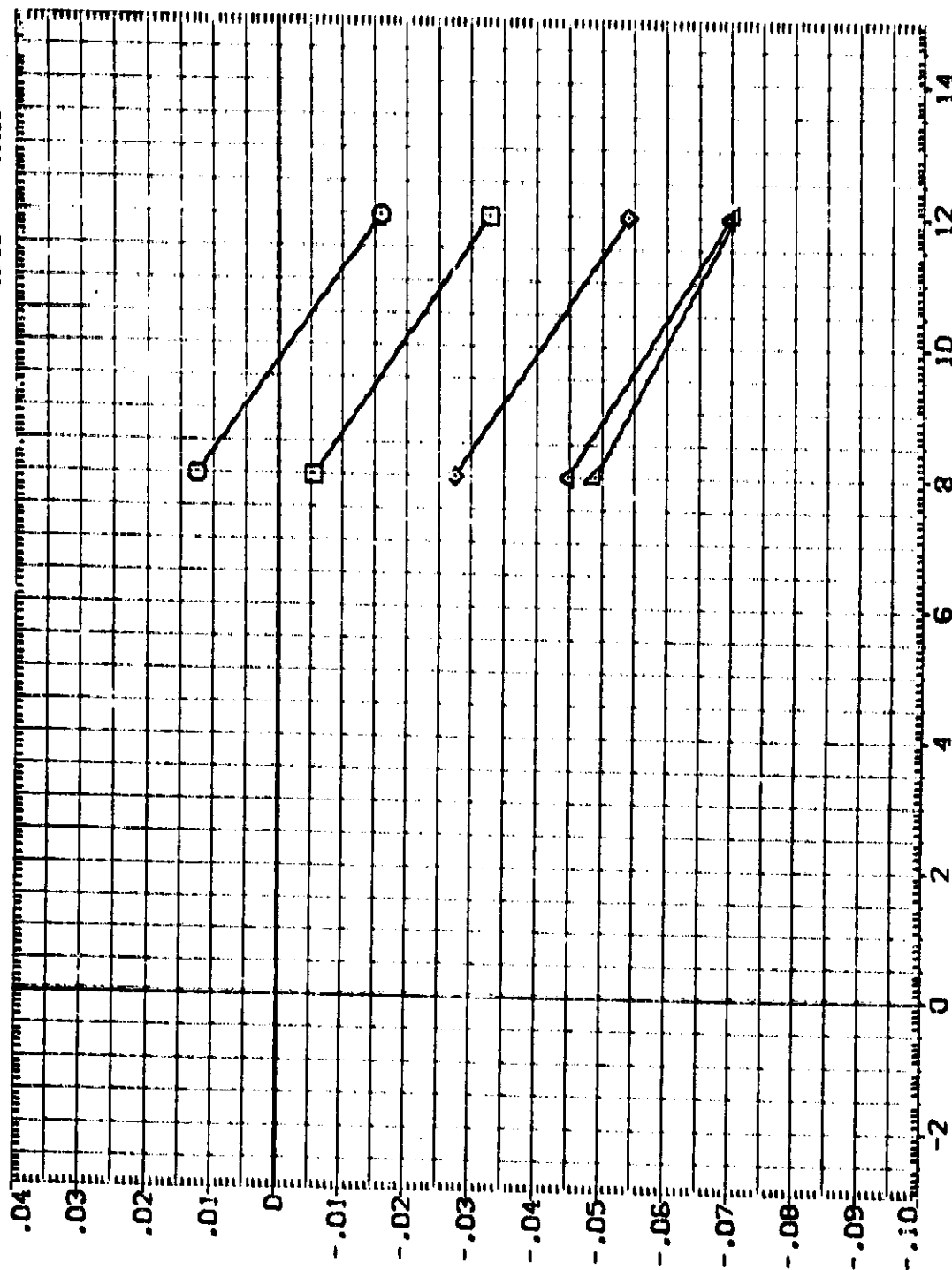


FIG. 17 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-08 = -8.0

AMES 97-052 1A110 (01 T12 S1 P2 P8) (FE1018)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	-8.000	ELV-IB	5REF	50.FT.
-4.000	RV/L	2.000	ELV-IB	1REF	1N.
.000	SPOBRK	2.500	FE1018	9REF	1N.
4.000	BETA	.000	FE1027	XREF	1N.
8.000		.000	FE1018	YREF	1N.
		.000	FE1027	ZREF	1N.
		.000	FE1018	SCALE	.0150

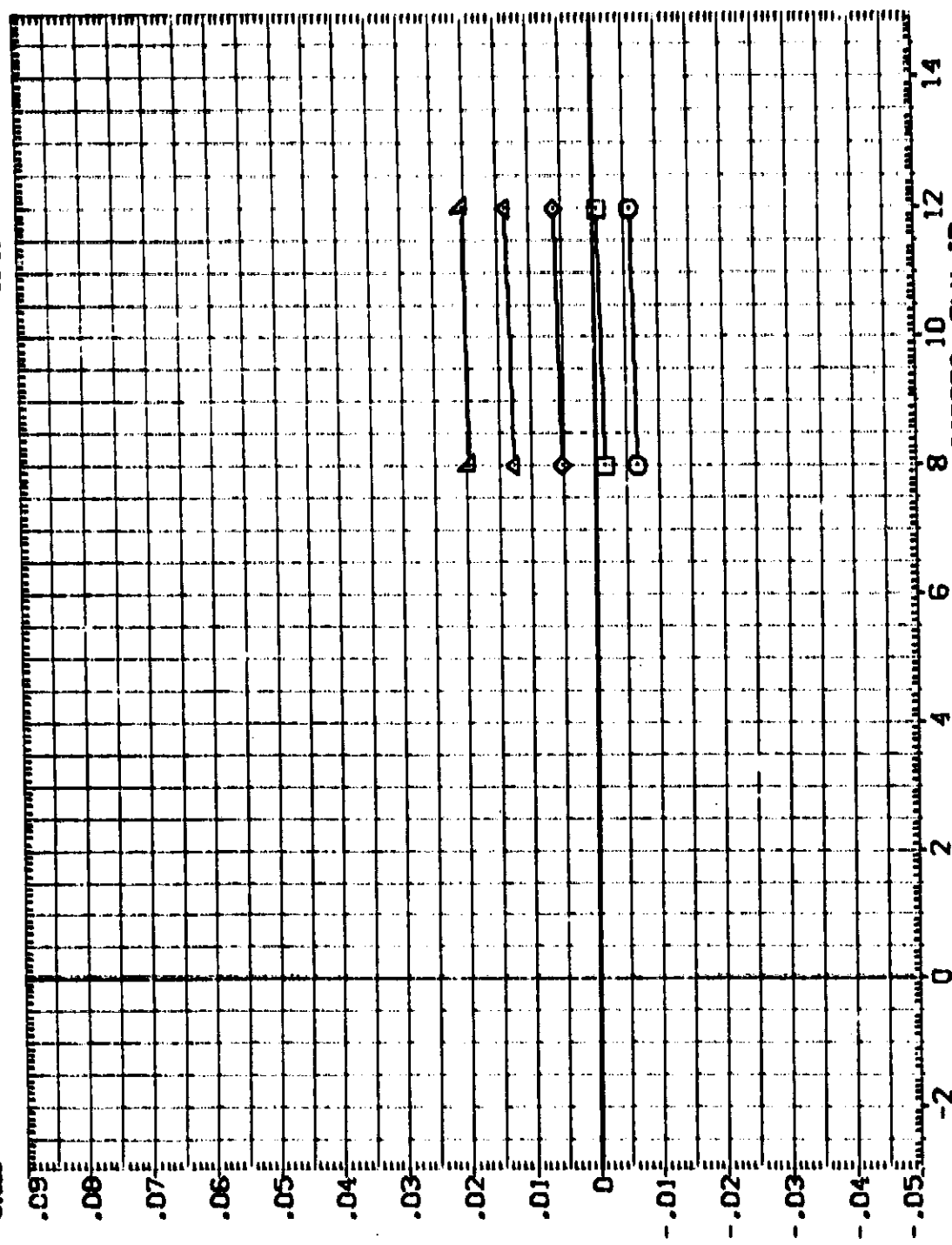


FIG. 17 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-IB = -8.0

AMES 97-052 1A:10 (01 112 S1 92 P8) (FE1018)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	-8.000	ELV-IB	ELV-IB	SEC
-8.000	2.000	ELV-IB	9.000	12.000	474.5000
-4.000	2.500	ELV-IB	9.000	12.000	555.5000
0.000	SPDRK	ELV-IB	9.000	12.000	579.0000
0.000	BETA	ELV-IB	9.000	12.000	400.0000
4.000		ELV-IB	9.000	12.000	SCALE
8.000		ELV-IB	9.000	12.000	.0150

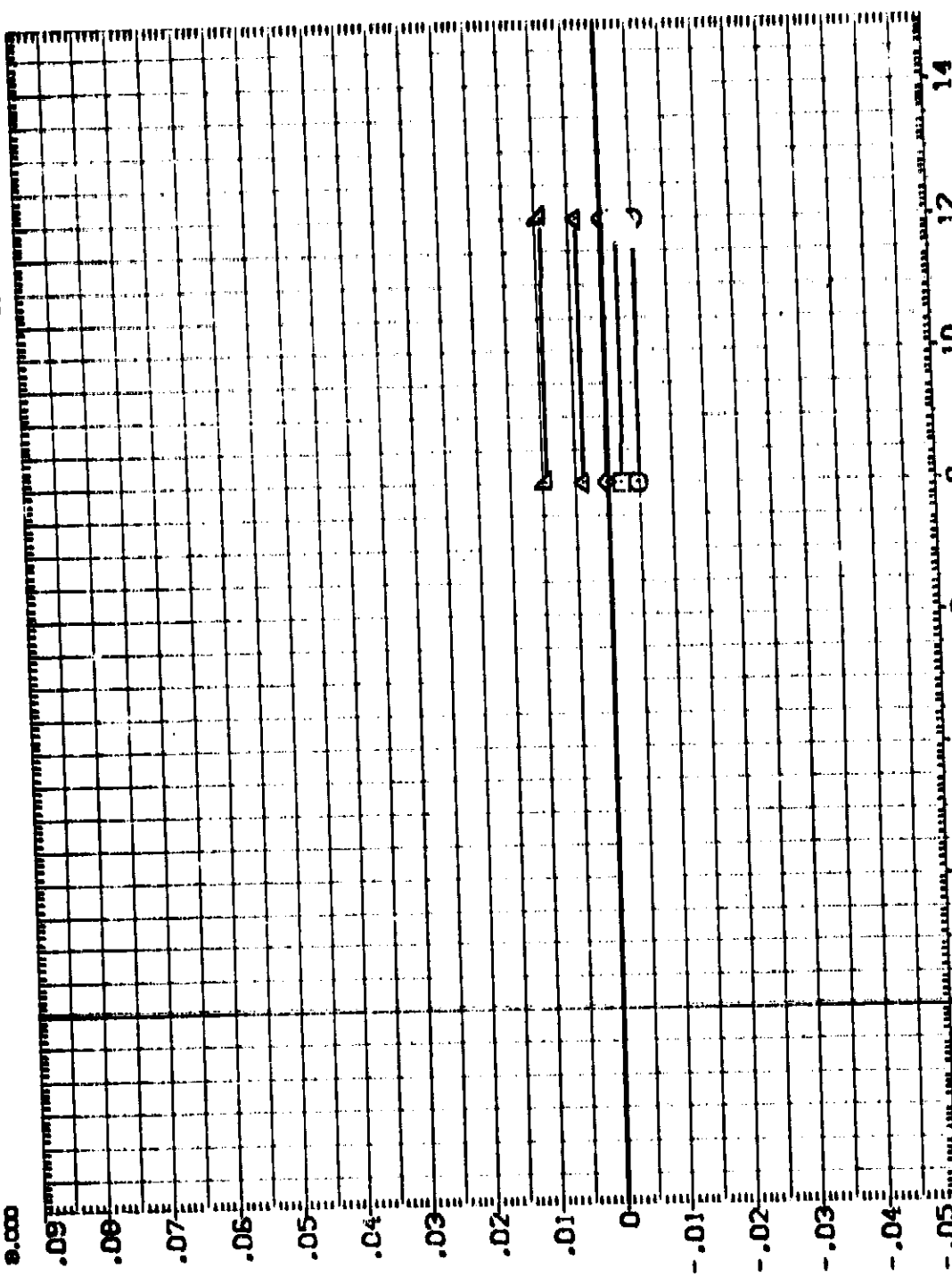


FIG. 17 EFFECT OF INBOARD ELEVON DEFLECTION, MACH = 2.00, ELV-OB = -8.0

DATA SET SYMBOL CONF IGURATION DESCRIPTION
 (FE1013) 0 ARES 97-052 IA110 I 01 112 S1 P2 PB 1
 (16-7001) 0 IA70 011251P28

ELY-03
 .000
 .000

REFERENCE INFORMATION
 SHEET 2000 0000 50 FT.
 LINE 474 0100 IN.
 SPREF 536 0000 IN.
 XPROP 575 0000 IN. XT
 YPROP 0000 0000 IN. YT
 ZPROP 400 0000 IN. ZT
 SCALE .0750

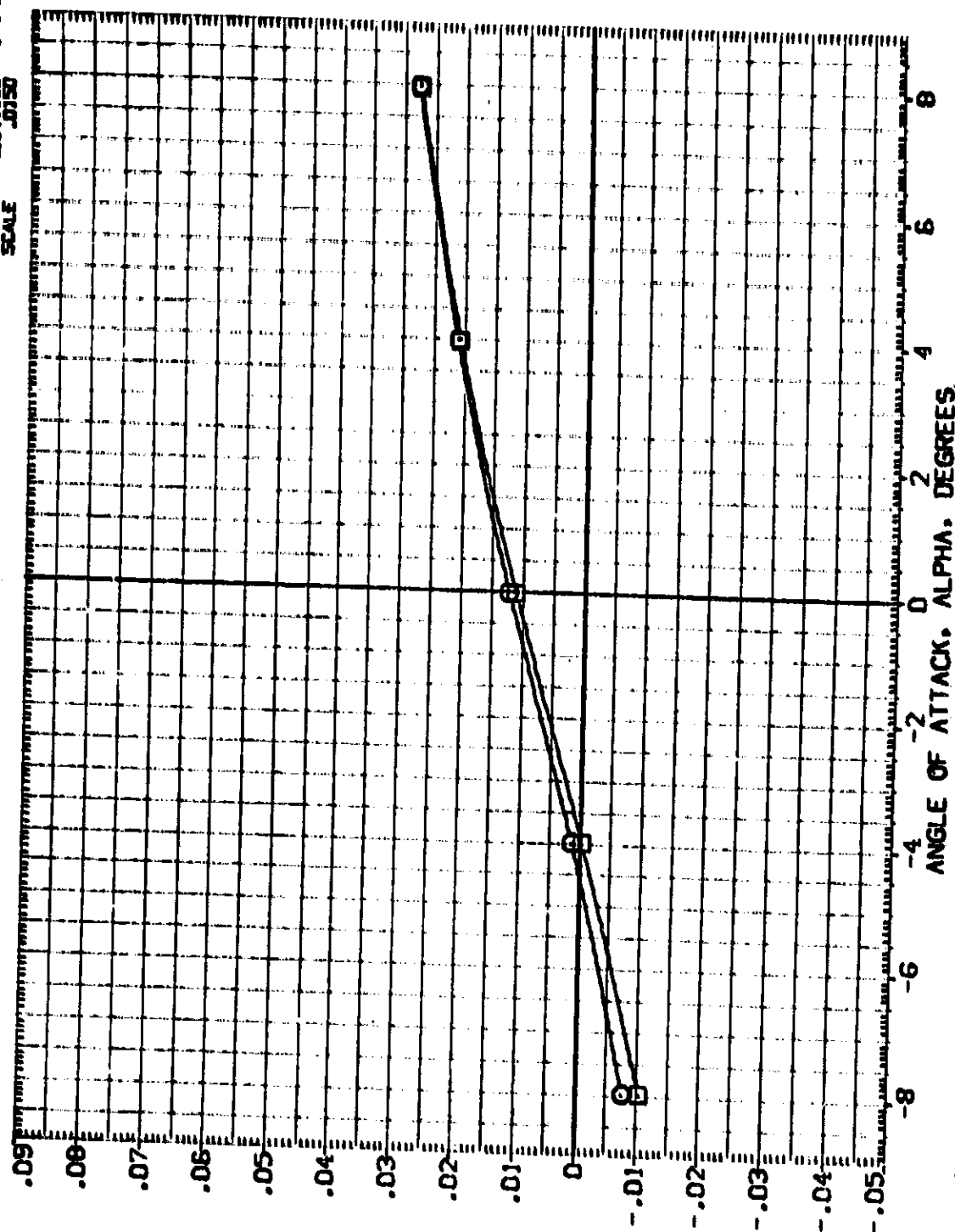


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(MACH = 1.55)

DATA SET SYMBOL: CONF IGURATION DESCRIPTION
 (FE1013) 1A70 011251P20
 (XF700X) 1A70 011251P20

BLV-OB
 .000
 .000

REFERENCE INFORMATION
 SREF 2550.0000 IN. 50 FT.
 LREF 474.8000 IN.
 BREF 575.0000 IN. XT
 XREF 575.0000 IN. XT
 YREF 400.0000 IN. ZT
 ZREF 400.0000 IN. ZT
 SCALE .0050

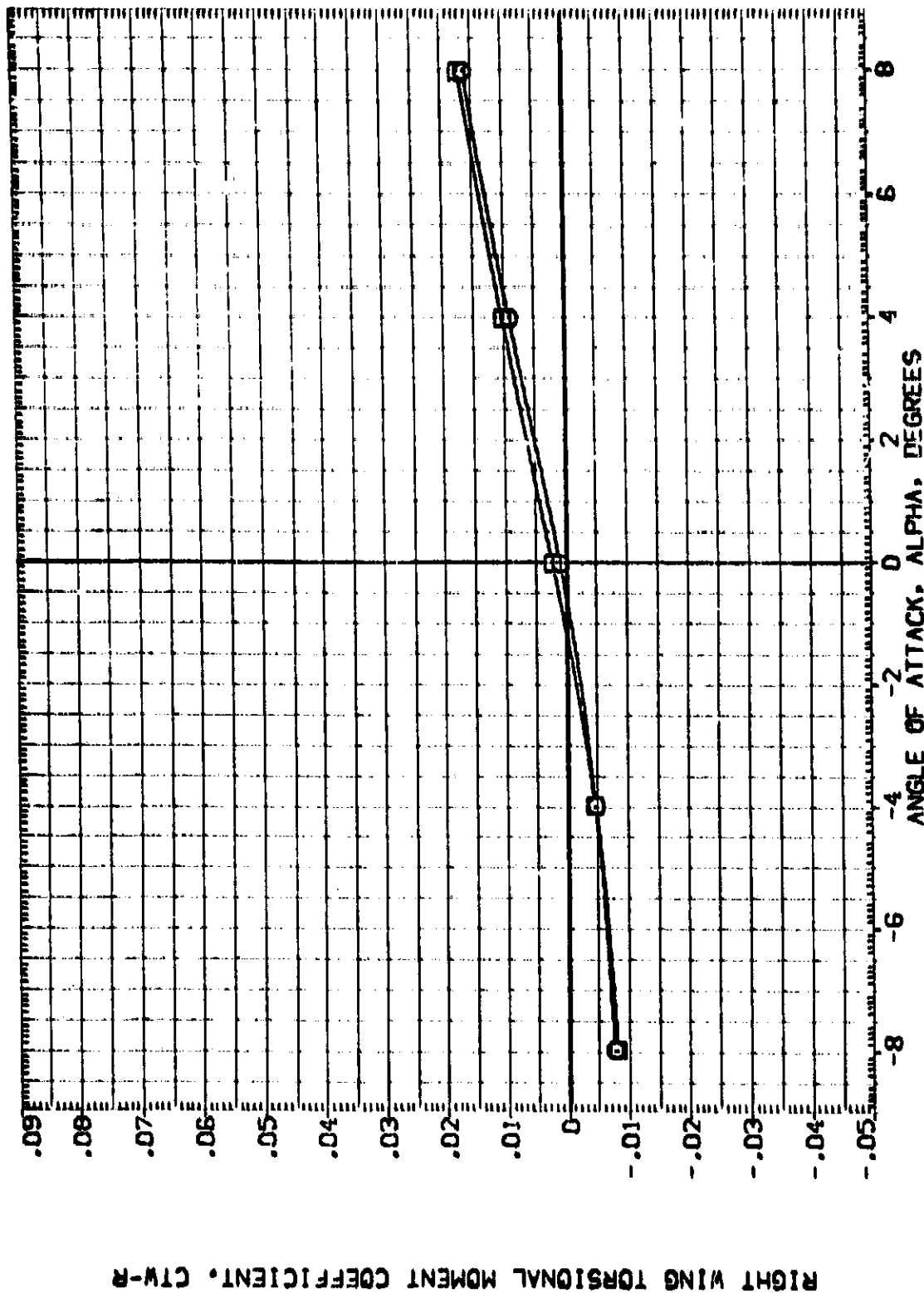


FIG. 18 COMPARISON OF 1A70 AND 1A110 RESULTS

(A)MACH = 1.55

REFERENCE INFORMATION
 SREF 2650.0000 50-FT.
 LREF 474.0000 IN.
 DREF 536.0000 IN.
 XREF 979.0000 IN.
 YREF 400.0000 IN.
 ZREF 400.0000 IN.
 SCALE .0150

ELV-08
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [FE:013] A70 01125IP28
 [X:700A] A70 01125IP28

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHD-L

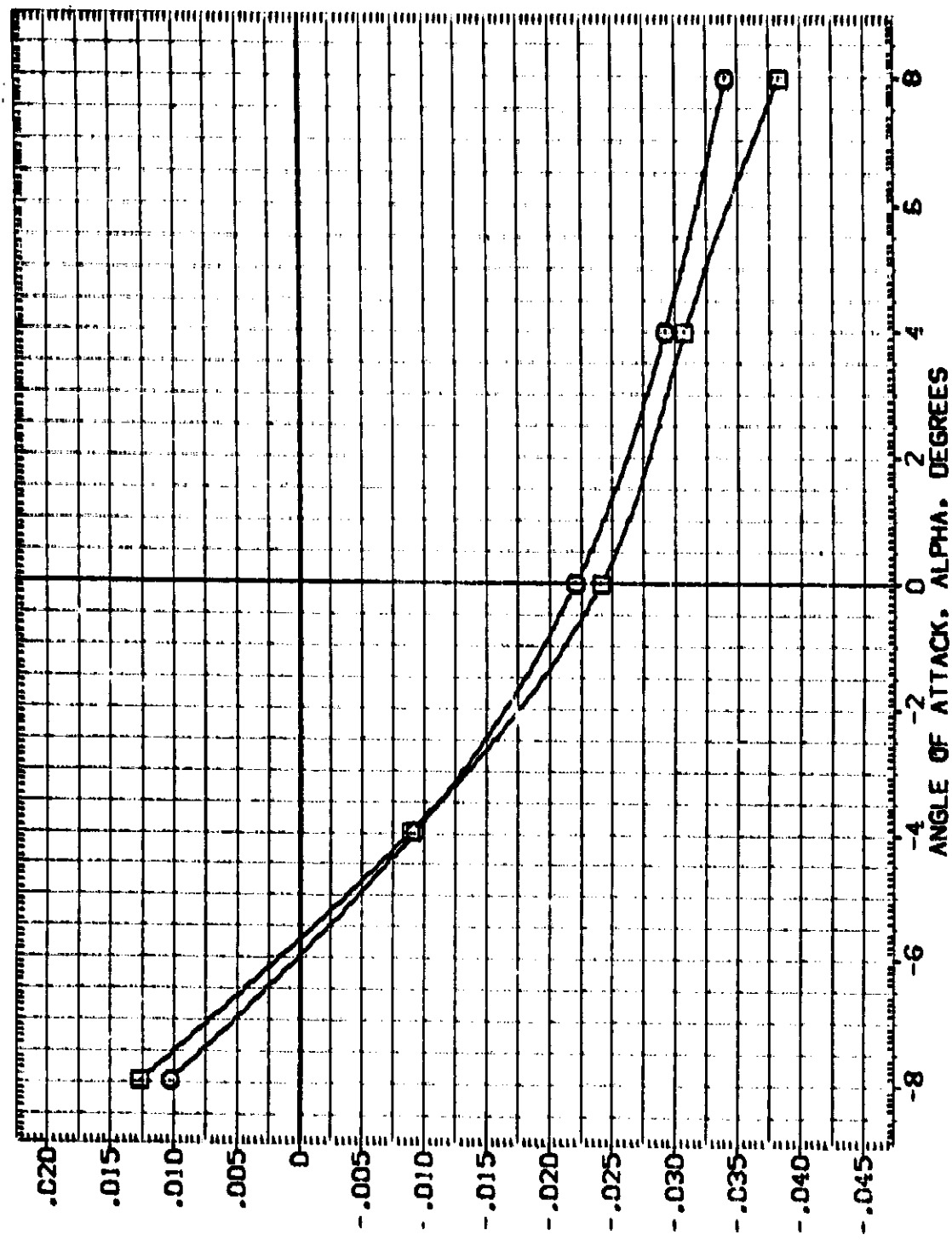


FIG. 18 COMPARISON OF A70 AND A110 RESULTS

(A)MACH = 1.55

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (FE1013) Q ARES 57-052 IA110 (01 T12 SI P2 P8 I
 (XF7004) IA70 01125IP28

ELV-08
 .000
 .000

REFERENCE INFORMATION
 SAE: 2580, 10000, 50, FT.
 LINE: 474, 8100, IN.
 BRET: 926, 5800, IN.
 XREP: 573, 1000, IN. VI
 YREP: 1000, IN. VI
 ZREP: 400, 1000, IN. VI
 SCALE: .0150

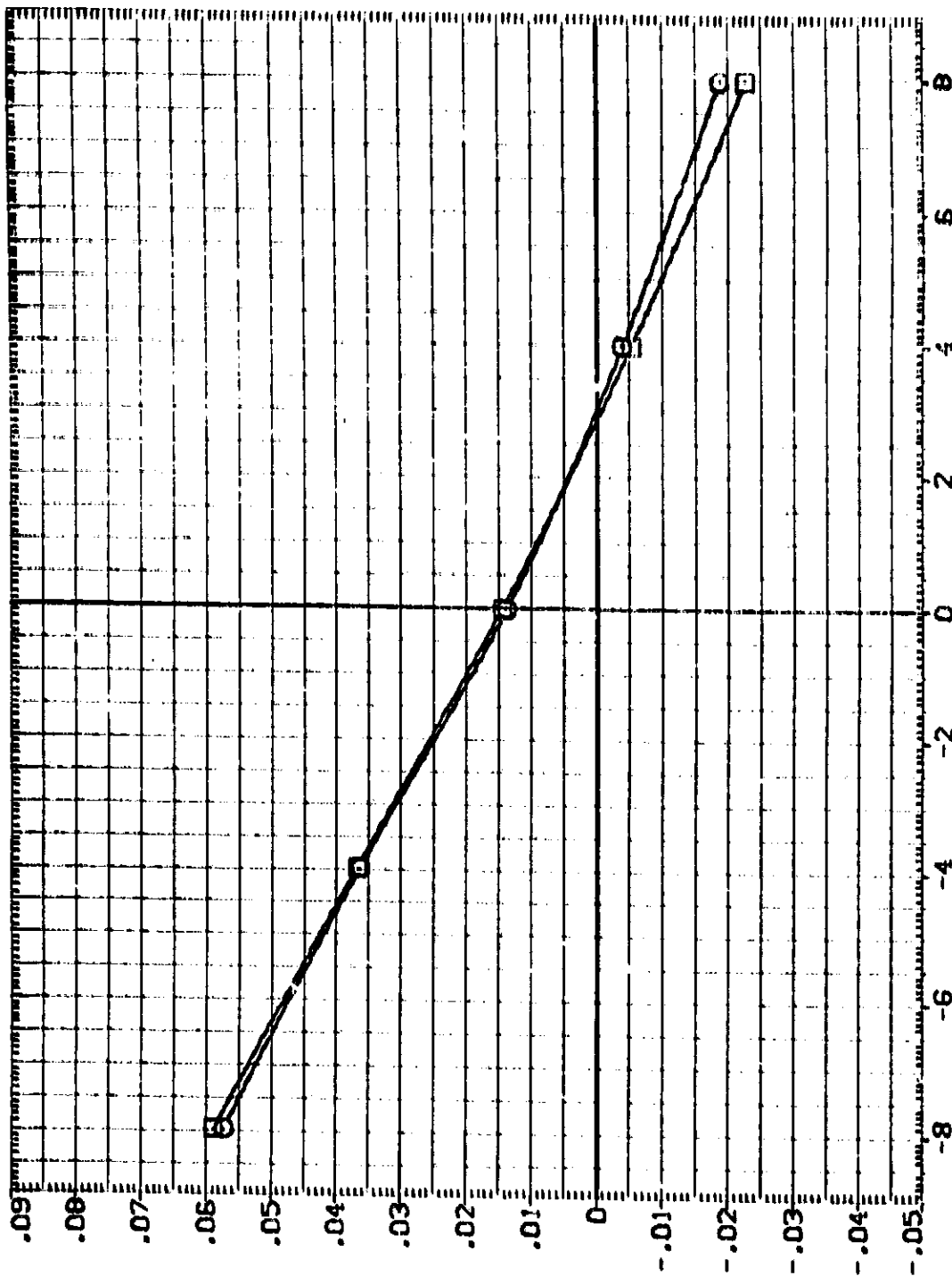


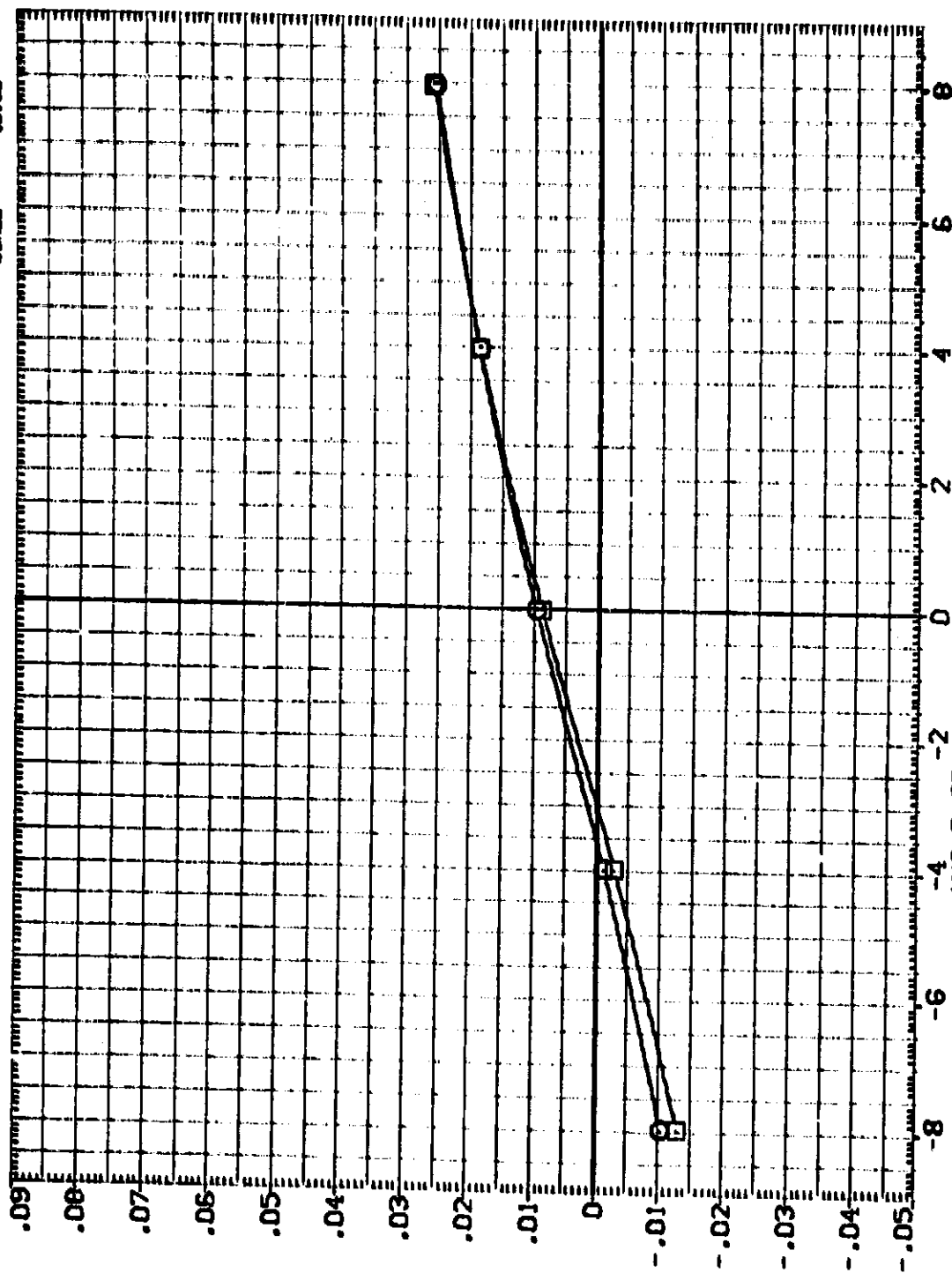
FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(MACH = 1.55)

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (FE1019) H ARES 97-052 IA110 (01 112 SI P2 P0 1
 (XF7019) IA70 0111251P28

ELV-08
 -8.000
 -8.000

REFERENCE INFORMATION
 SREF 2650.0000 SO.FT.
 LREF 474.8100 INL
 BREF 936.5000 INL
 XREF 979.0000 INL
 YREF 400.0000 INL
 ZREF 1000.0000 INL
 SCALE .0150



ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: Q
 (FE:019)
 (X:7019)

CONFIGURATION DESCRIPTION:
 MES 97-052 IA110 (01 112 S1 P2 P8)
 IA70 01112SUP2P8

ELV-09
 -8.000
 -8.000

REFERENCE INFORMATION:
 SREF 2650.0000 50.FT.
 LREF 474.0100 1N.
 SREF 536.0000 1N.
 XREF 979.0000 1N. XT
 YREF 400.0000 1N. YT
 ZREF 400.0000 1N. ZT
 SCALE .0150

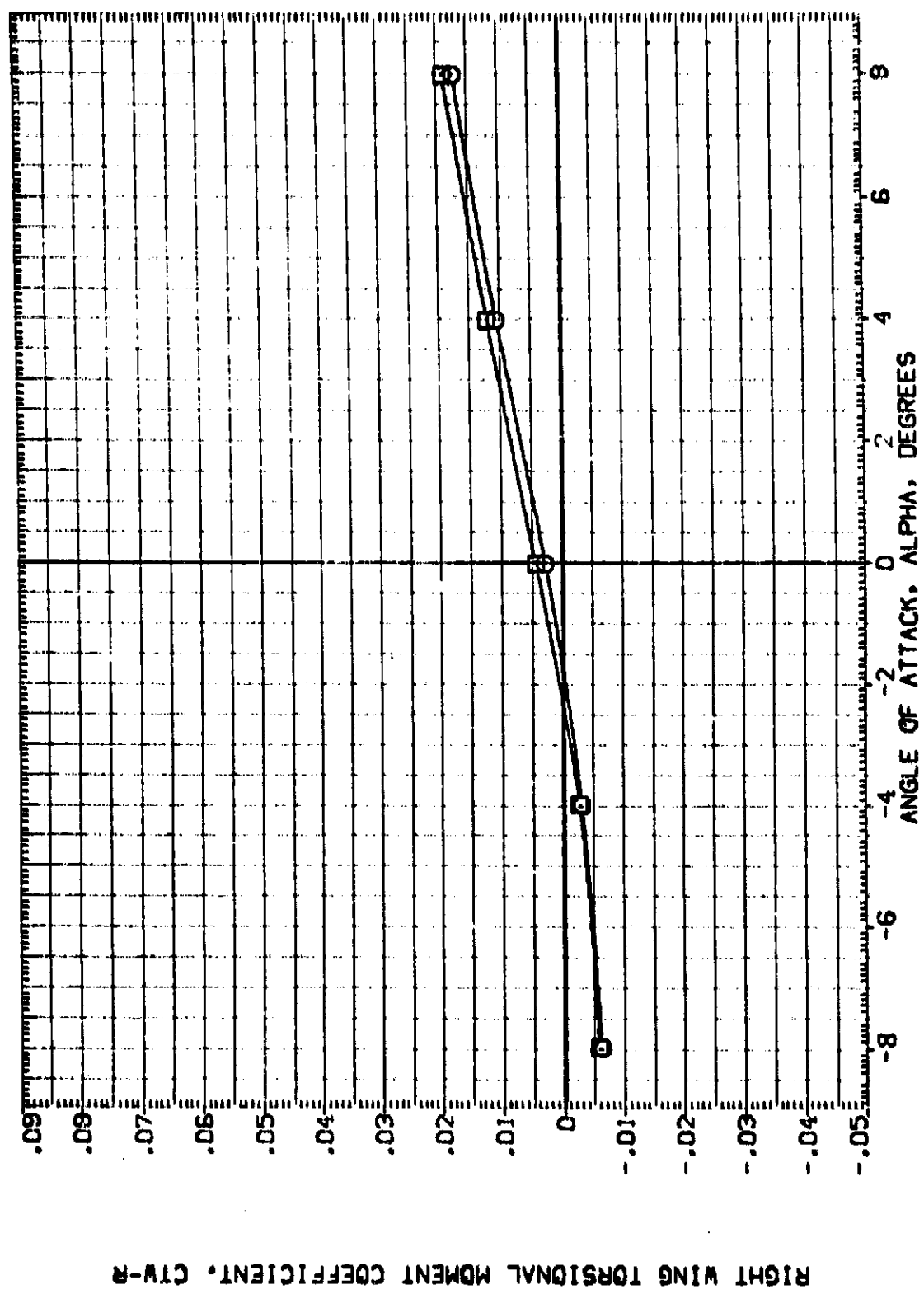


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(A)MACH = 1.55

REFERENCE INFORMATION
 SREF 2690.0000 50. FT.
 LREF 474.8100 IN.
 BREF 936.6800 IN. XT
 XMRP 979.0000 IN. YI
 YMRP 400.0000 IN. ZI
 ZMRP 400.0000 IN. ZI
 SCALE .0150

ELV-03
 -8.000
 -8.000

DATA SET SYMBOL CONF IGURATION DESCRIPTION
 (FE1019) Q MES 97-052 IA110 I 01 T12 S1 P2 PB 1
 (AF7019) IA70 0112SIP2PB

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHEO-L

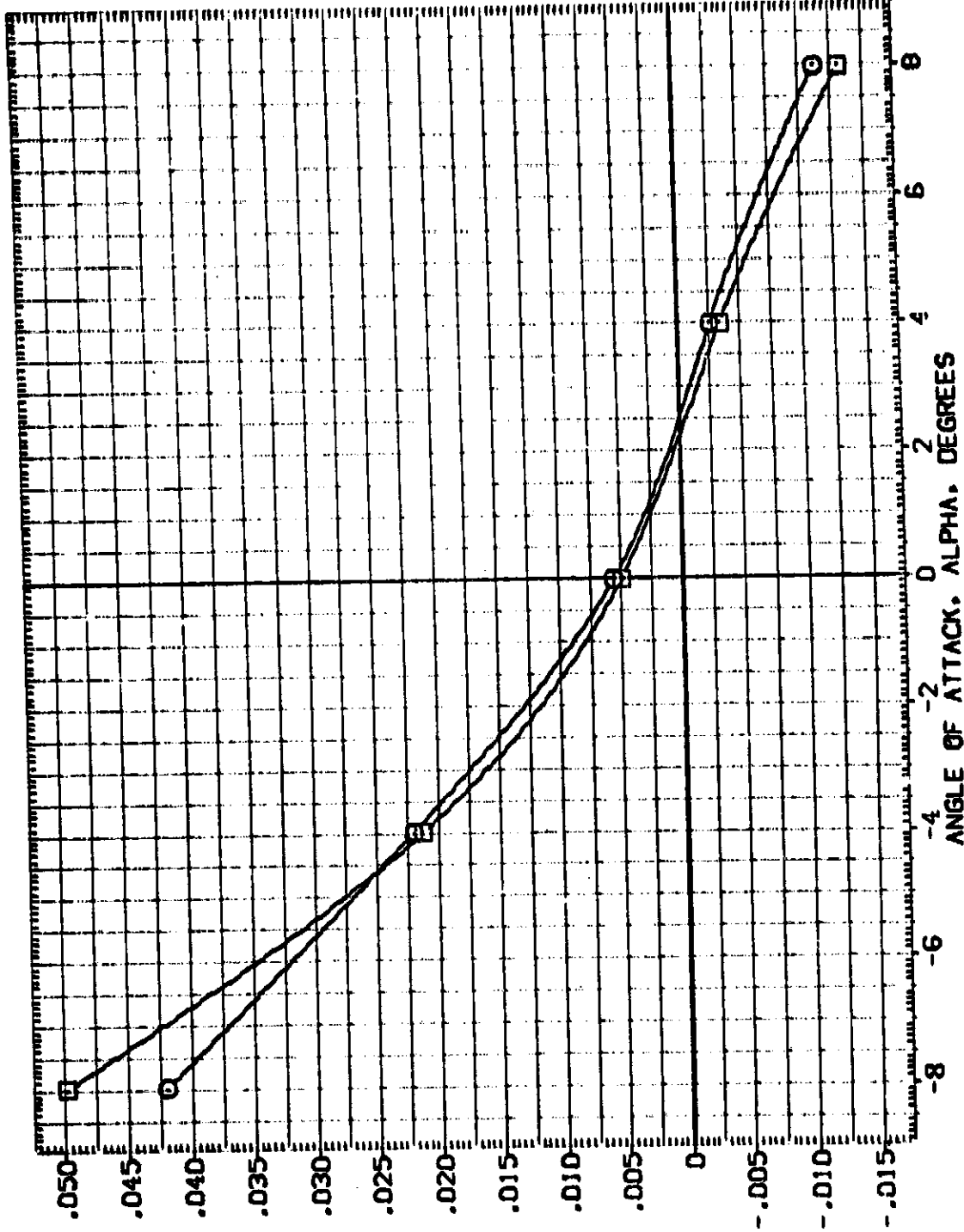


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(A)MACH = 1.55

DATA SET SYMBOL: 0
 (FE1019)
 (X7019)
 CONF IGURATION DESCRIPTION
 MES 97-052 IA110 (01 112 SI P2 P8)
 IA70 011125IP2-P8

ELV-08
 -8.000
 -8.000

REFERENCE INFORMATION
 SREF 2690.0000 50.000
 LREF 474.8100 10.000
 BREF 936.5800 10.000
 XTRP 979.0000 10.000
 YTRP 400.0000 10.000
 ZTRP 400.0000 10.000
 SCALE .0150

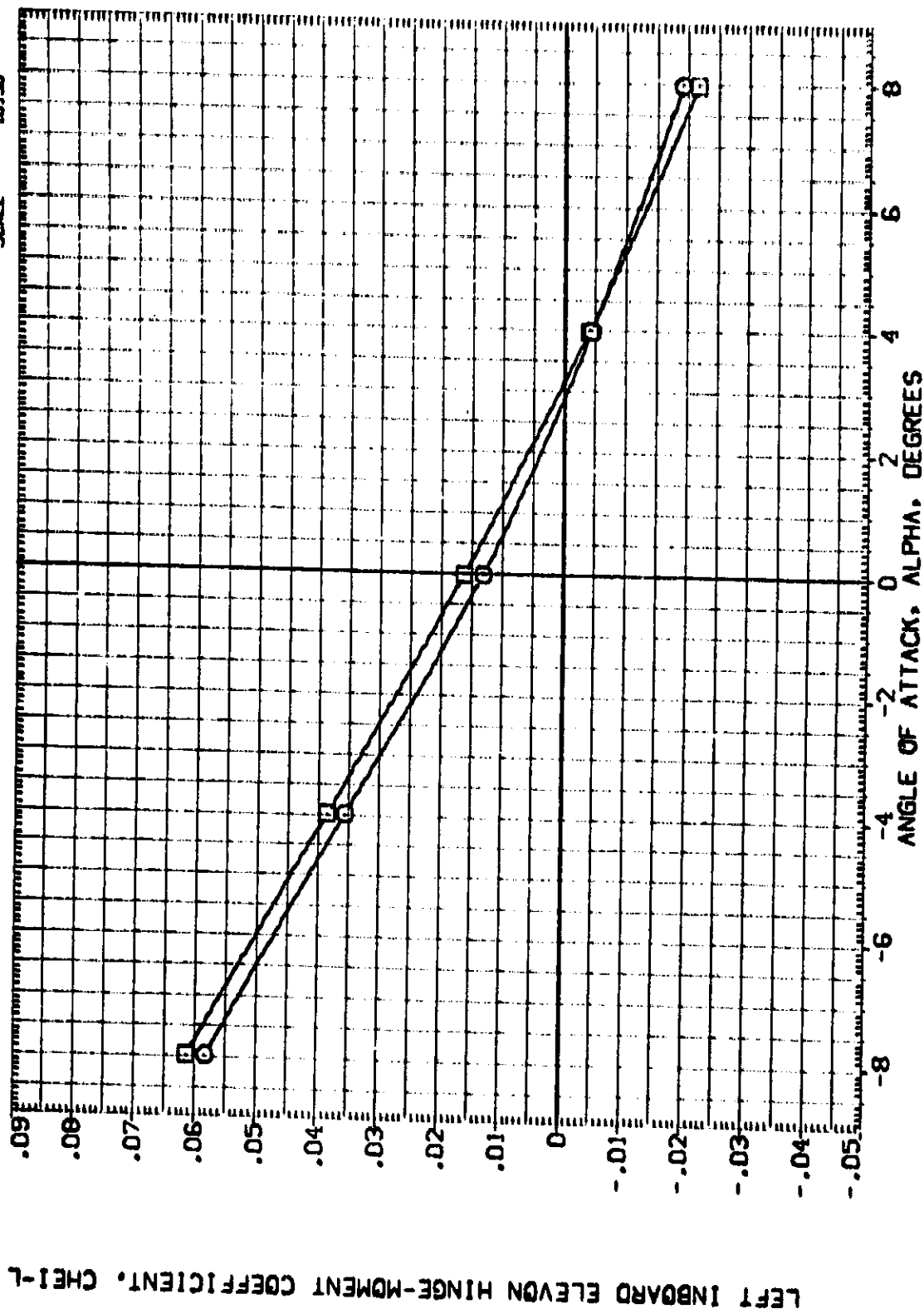


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: 1A70 CITIZENSHIP
 CONFIGURATION DESCRIPTION: 1A70 CITIZENSHIP
 1A70 CITIZENSHIP

ELV-08
 .000
 .000

REFERENCE INFORMATION
 SREF 2590.0000 SQ.FT.
 LREF 474.6100 IN.
 BREF 936.8900 IN.
 XREF 973.0000 IN. XT
 YREF 400.0000 IN. YT
 ZREF 400.0000 IN. ZT
 SCALE .0150

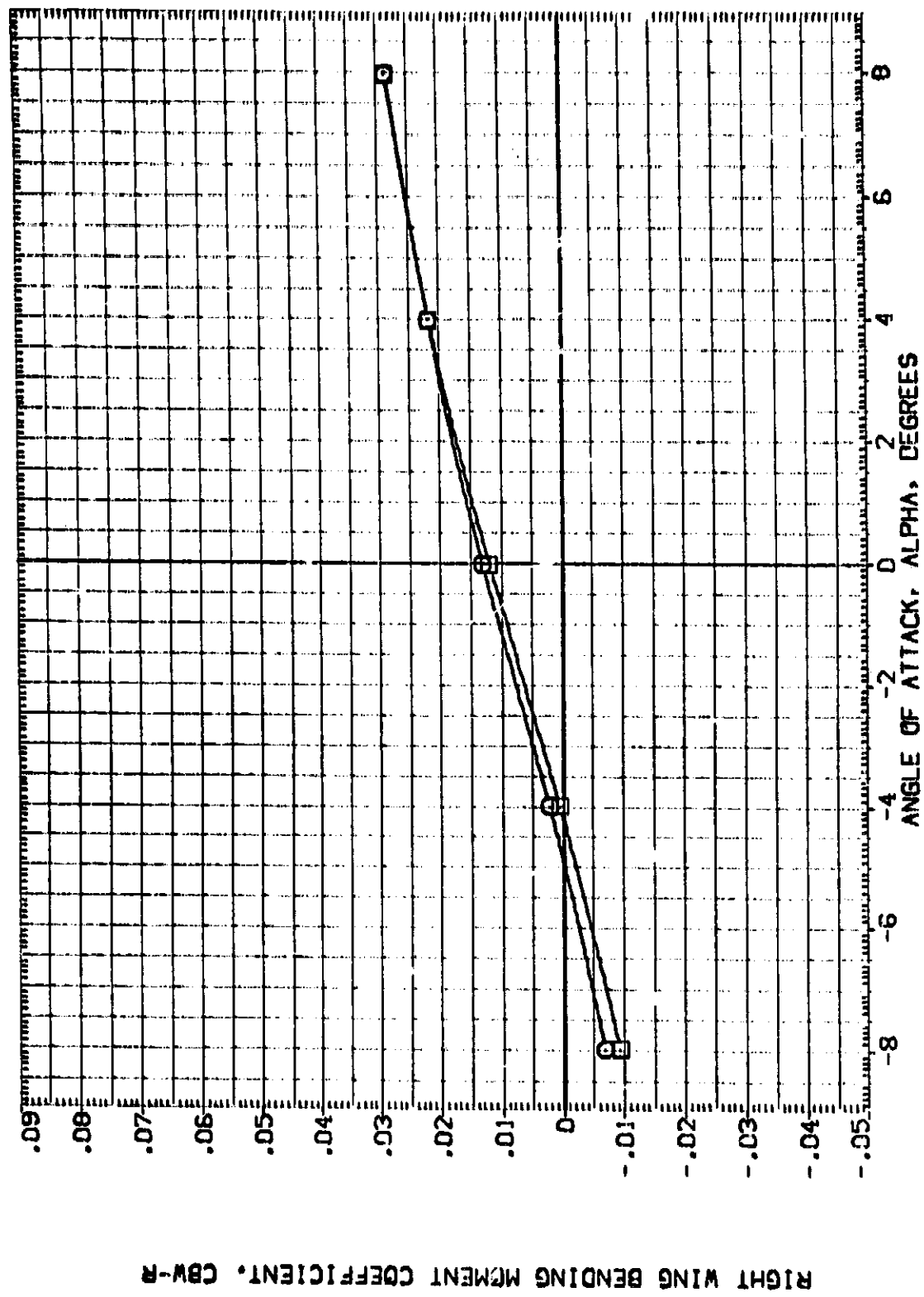


FIG. 18 COMPARISON OF 1A70 AND 1A110 RESULTS
 (A)MACH = 1.55

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FE1023) 8 ASES 97-052 IA110 I 01 112 S1 P2 P8 1
 (X-7005)

ELV-08
 .000
 .000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 474.8100 IN.
 BREF 936.5800 IN.
 XTRP 979.0000 IN. XI
 YTRP 400.0000 IN. YI
 ZTRP 0.0000 IN. ZI
 SCALE .0150

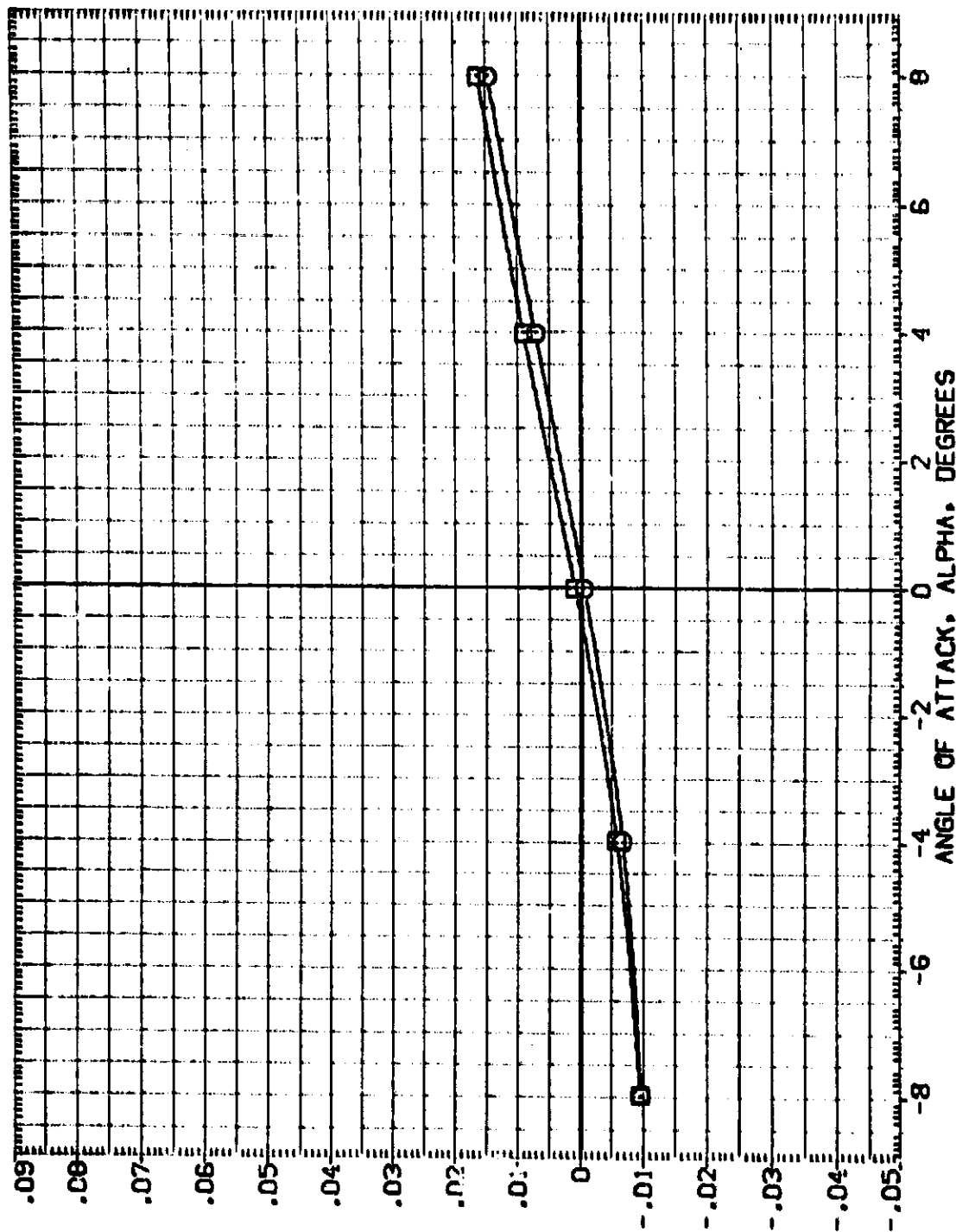


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (FE1023) 0 WES 97-052 IA110 (01 112 S1 P2 PG 1)
 (XF7005) 0 IA70 0111251P28

ELV-08
 .000
 .000

REFERENCE INFORMATION
 SREF 2850.0000 SQ.FT.
 LREF 474.8100 IN.
 BREF 536.5000 IN.
 XREF 579.0000 IN.
 YREF 400.0000 IN.
 ZREF 400.0000 IN.
 SCALE .0150

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHD-L

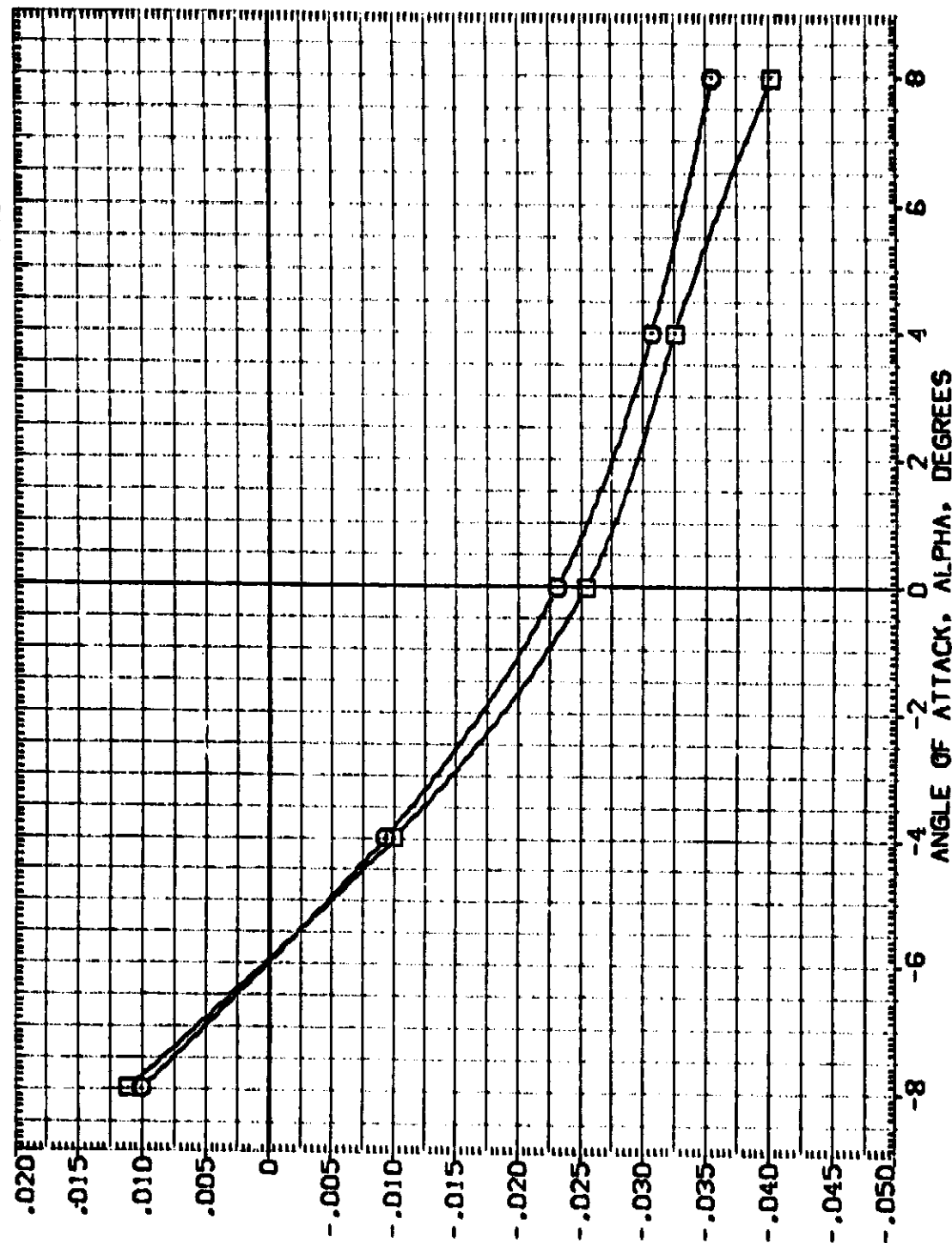


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: CONF IGURATION DESCRIPTION
 (FE1023) (01 112 SI P2 PB)
 (NF7005) 1A70 011125IP298

ELV-08
 .000
 .000

REFERENCE INFORMATION
 SREF 2650.0000 50. FT.
 LREF 474.8100 IN.
 BREF 936.5800 IN. XT
 XREF 575.0000 IN. XT
 YREF 400.0000 IN. ZT
 ZREF 400.0000 IN. ZT
 SCALE .0150

LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, CHEI-L

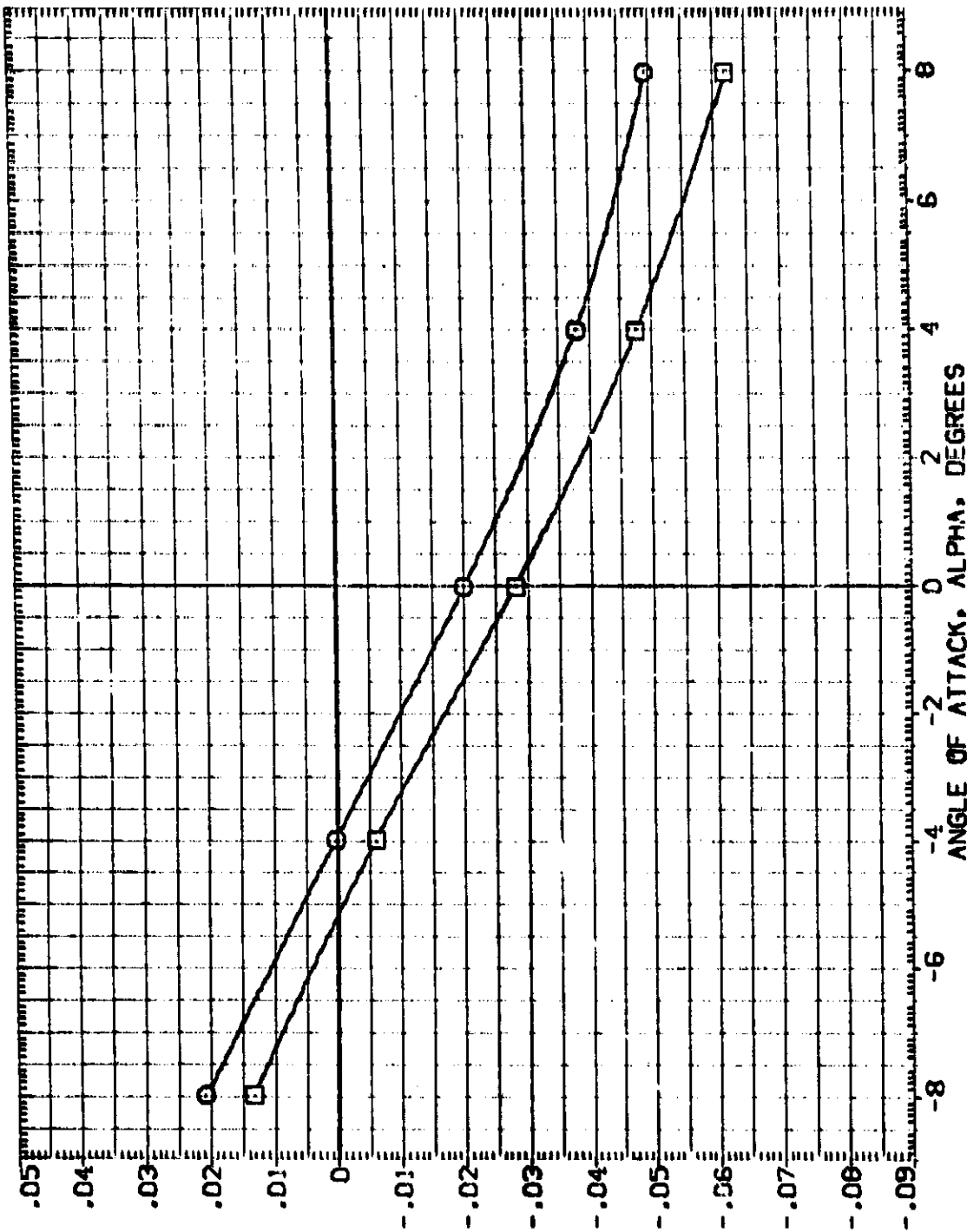


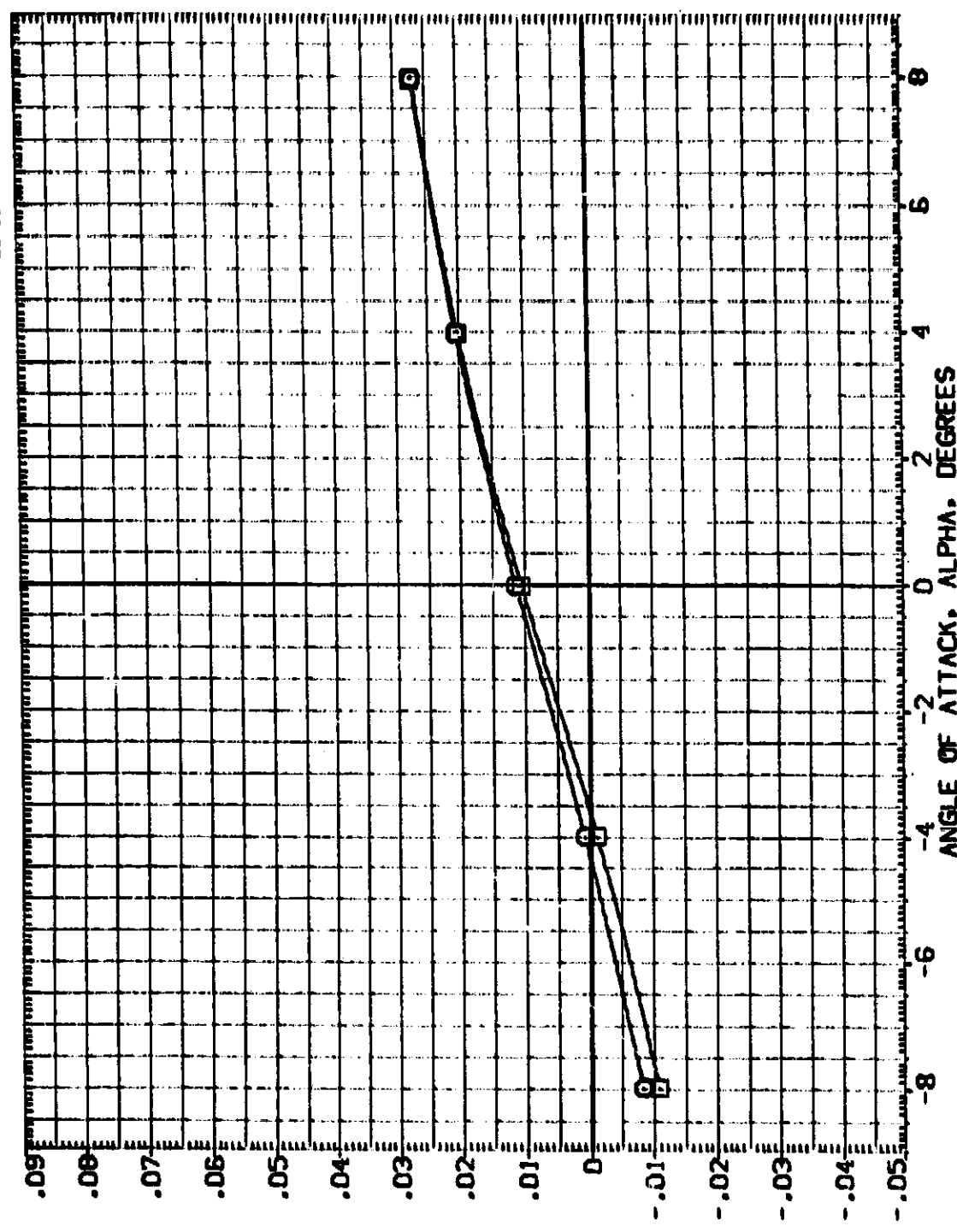
FIG. 18 COMPARISON OF 1A70 AND 1A110 RESULTS

(A)MACH = 1.55

REFERENCE INFORMATION
 SREF 2850.0000 50.FT.
 LREF 474.6100 IN.
 BREF 536.6800 IN.
 XREF 979.0000 IN. XI
 YREF 400.0000 IN. VI
 ZREF 400.0000 IN. ZI
 SCALE .0150

ELV-08
 -4.000
 -4.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FE1006) 0 ASES 97-052 IA110 (01 112 SI P2 PB 1
 (XF7015) 0 IA70 01112SIP2PB



RIGHT WING BENDING MOMENT COEFFICIENT, CBW-R

FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FEJ026) 1070 011251P208
 (X7015) 1070 011251P208

ELV-09
 -4.000
 -4.000

REFERENCE INFORMATION
 SREF 2690.0000 50. FT.
 LREF 474.8100 IN.
 BREF 936.5800 IN.
 XREF 979.0000 IN.
 YREF 979.0000 IN.
 ZREF 400.0000 IN.
 SCALE .0150

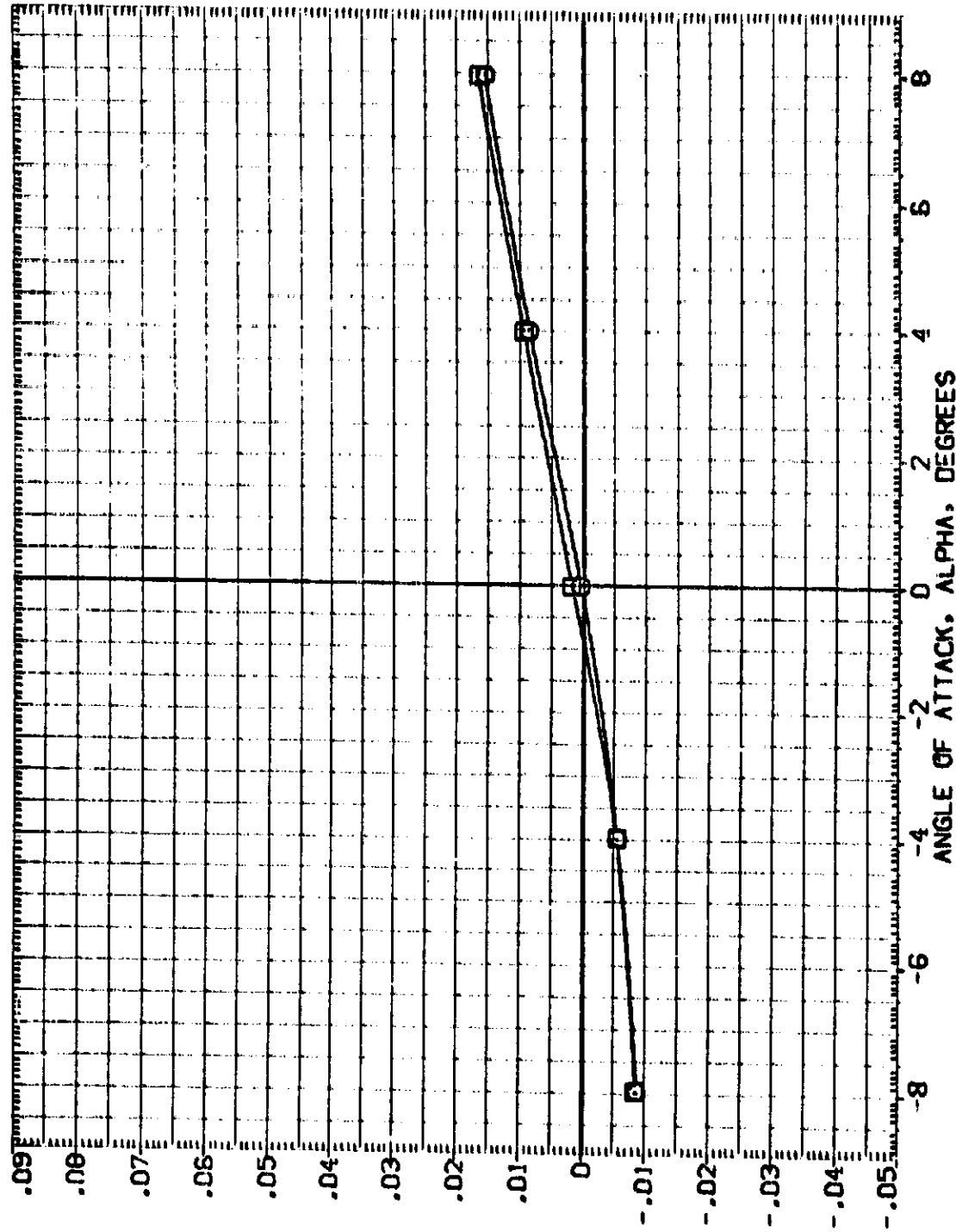


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (FE10263) () ARES 97-052 IA110 (01 112 SI P2 P8 1
 (AF70:5) IA70 01125IP2P8

ELV-09
 -1.000
 -1.000

REFERENCE INFORMATION
 SREF 2650.0000 50. FT.
 LREF 474.8100 IN.
 XREF 536.6800 IN. XT
 YREF 579.0000 IN. YT
 ZREF 400.0000 IN. ZT
 SCALE .0150

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{H0-L}

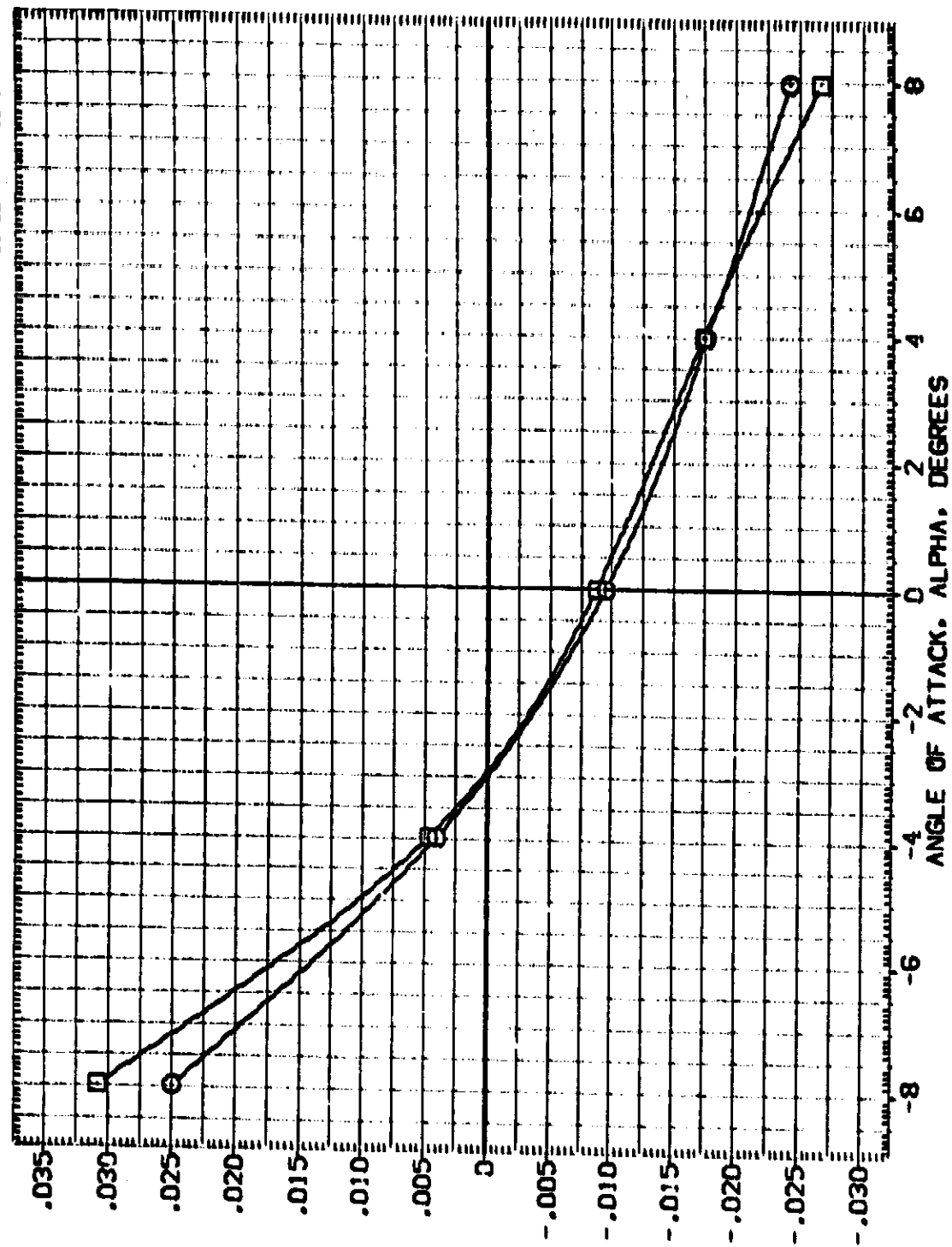


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

REFERENCE INFORMATION
 SREF 2600 7000 50.FT.
 LREF 474.8110 1N.
 BREF 936.5800 1N.
 XREF 979.1000 1N.
 YREF 400.1000 1N.
 ZREF 400.1000 1N.
 SCALE 1000

ELV-08
 -4.000
 -4.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FE1006) 01 01 112 S1 P2 P0 1
 (X67015) 1A70 0111251P2P0

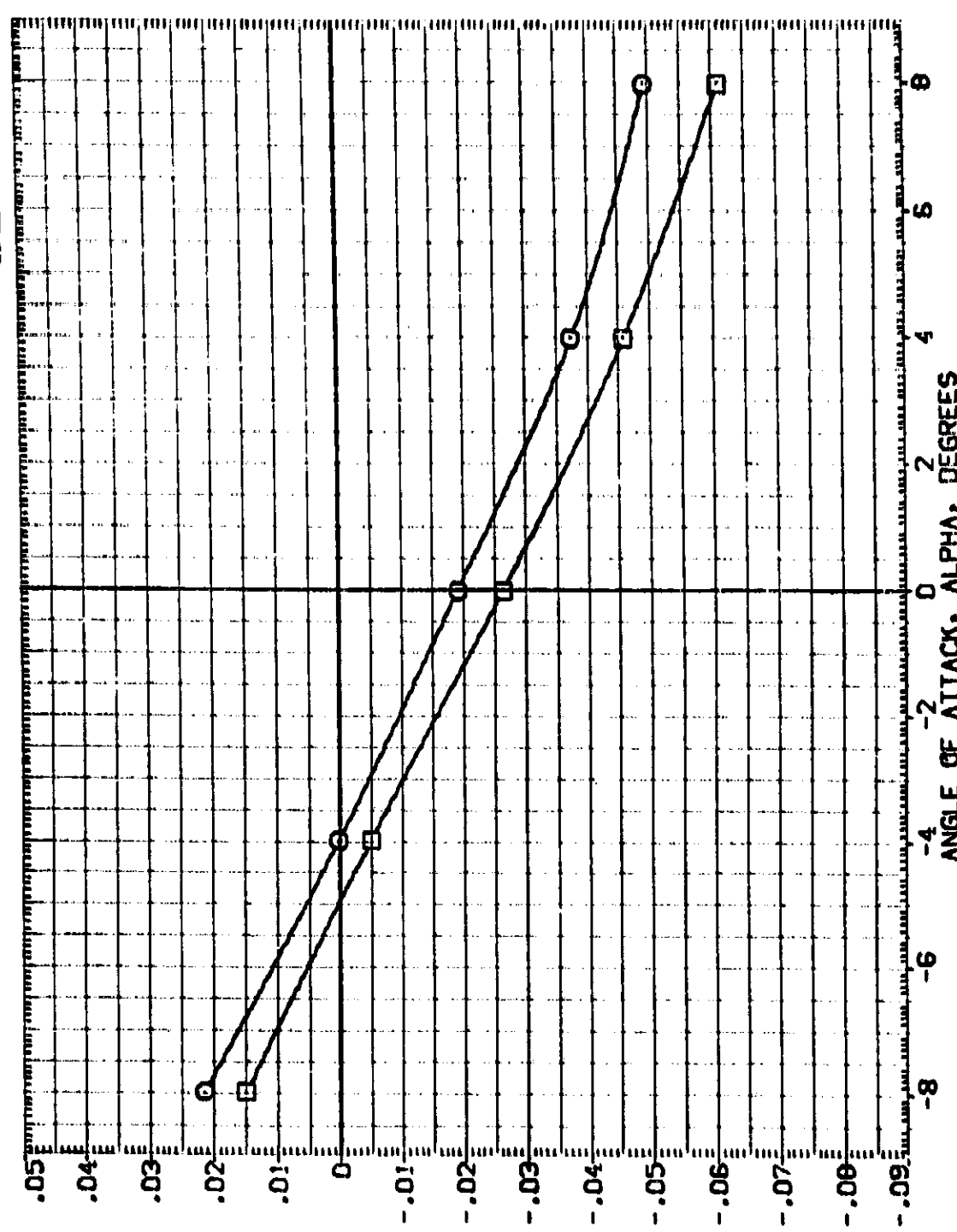


FIG. 18 COMPARISON OF 1A70 AND 1A110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
Q11FE1028	AFS 97-052 1A110 (01 712 SI P2 PB 1
Q11FE1030	IA70 01175IP28

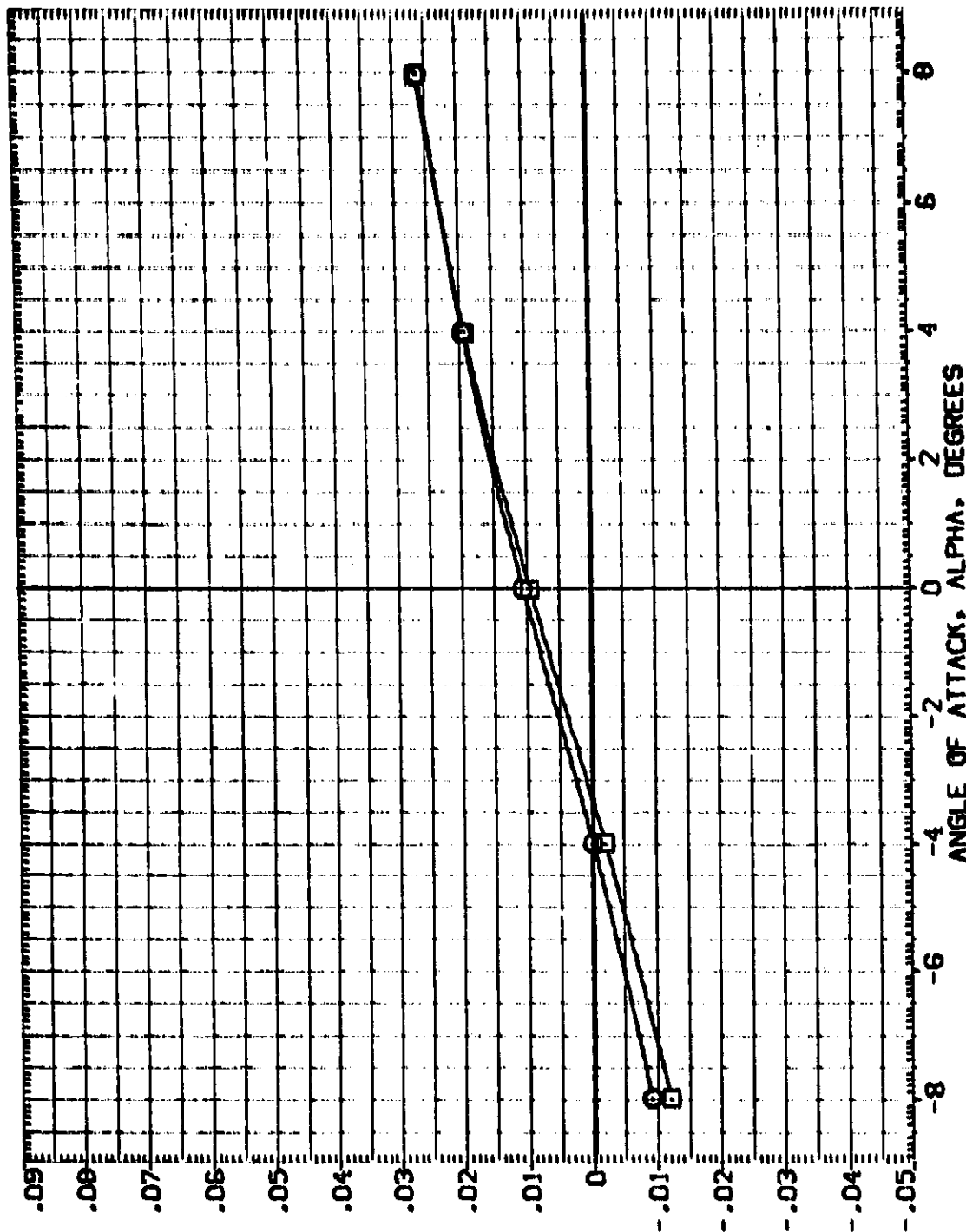


FIG. 18. COMPARISON OF IA70 AND IA110 RESULTS

$$(\Delta)V_{MACH} = 1.55$$

REFERENCE INFORMATION:
 SREF 2630.0000 SQ.FT.
 LREF 474.8100 IN.
 BREF 526.5800 IN.
 XREF 579.1000 IN.
 YREF 1000 IN.
 ZREF 1000 IN.
 SCALE .0752

ELV-OB
 -8.000
 -8.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FE1028) [] NES 97-052 IA110 (01 112 SI P2 PB 1
 (XF7020) [] IAWO 011251P28

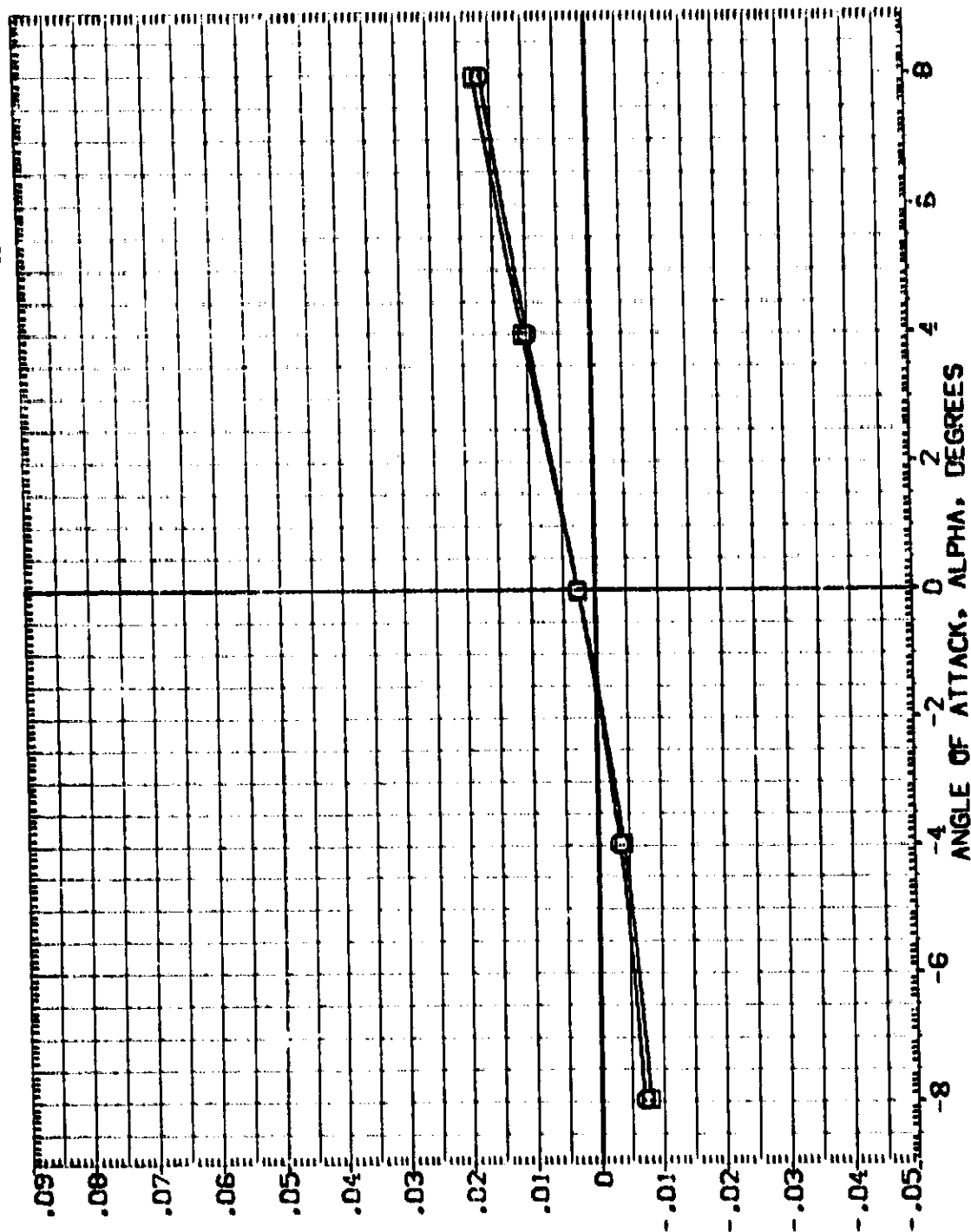


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(MACH = 1.55)

DATA SET SYMBOL: Q
 (FE1028)
 (AF7020)

CONF IGURATION DESCRIPTION
 MES 27-052 IA110 (CI 112 SI P2 P8 1
 IA70 01112SIP2P8

ELV-08
 -8.000
 -8.000

REFERENCE INFORMATION
 SPREF 2690.0000 SQ.FT.
 LREF 474.8100 IN.
 BRREF 936.6800 IN.
 XBRP 979.0000 IN. XT
 YBRP 400.0000 IN. YT
 ZBRP 400.0000 IN. ZT
 SCALE .0150

LEFT OUTBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{H0-L}

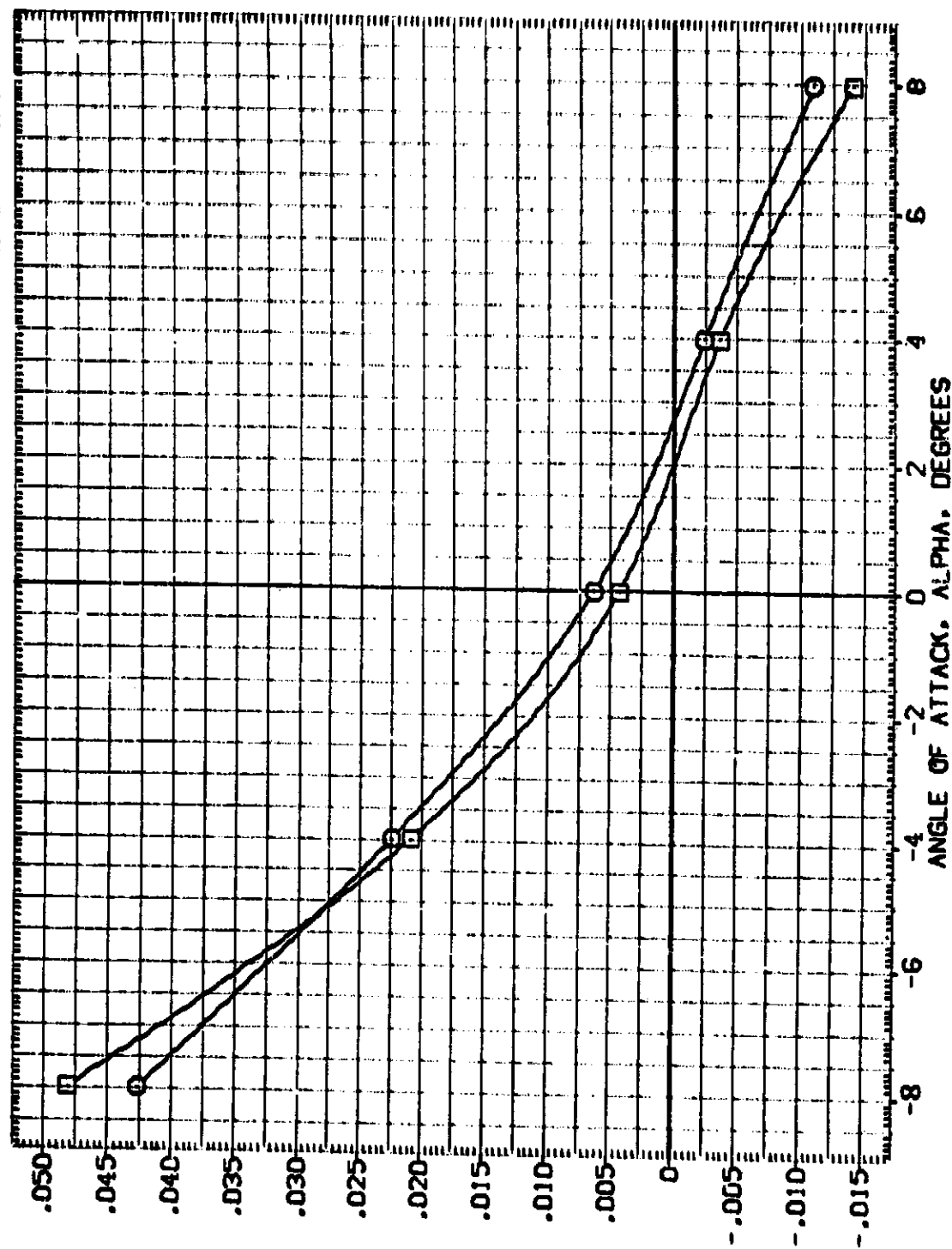


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(MACH = 1.55)

DATA SET SYMBOL: CONF IGURATION DESCRIPTION
 (FE1020) 1 01 112 S1 P2 00 1
 (XF7020) 1A70 011125IP2-8

ELV-08
 -8.000
 -8.000

REFERENCE INFORMATION
 SREF 2680 0000 50. FT.
 LREF 474.8100 IN.
 BREF 935.8800 IN. XT
 XREF 979.0000 IN. YT
 YREF 1000.0000 IN. ZT
 ZREF 400.0000 IN. ZT
 SCALE .0150

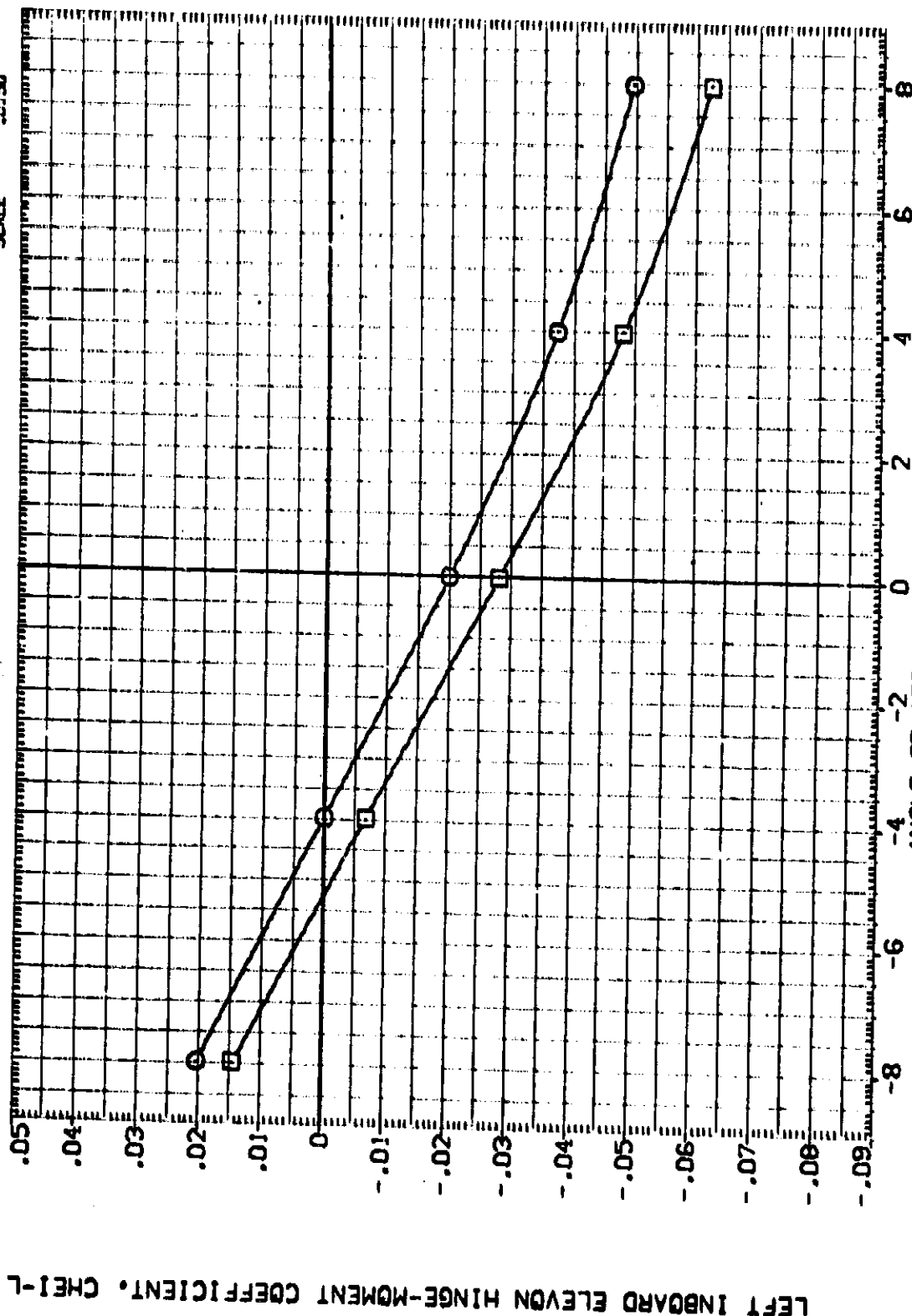


FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: (FE1005)
 (X7016)

CONFIGURATION DESCRIPTION
 MES 97-052 IA110 I 0: 112 SI P2 P0 1
 IA70 01125IP2-8

ELEV-08
 -1.000
 -1.000

RIGHT WING BENDING MOMENT COEFFICIENT, CBW-R

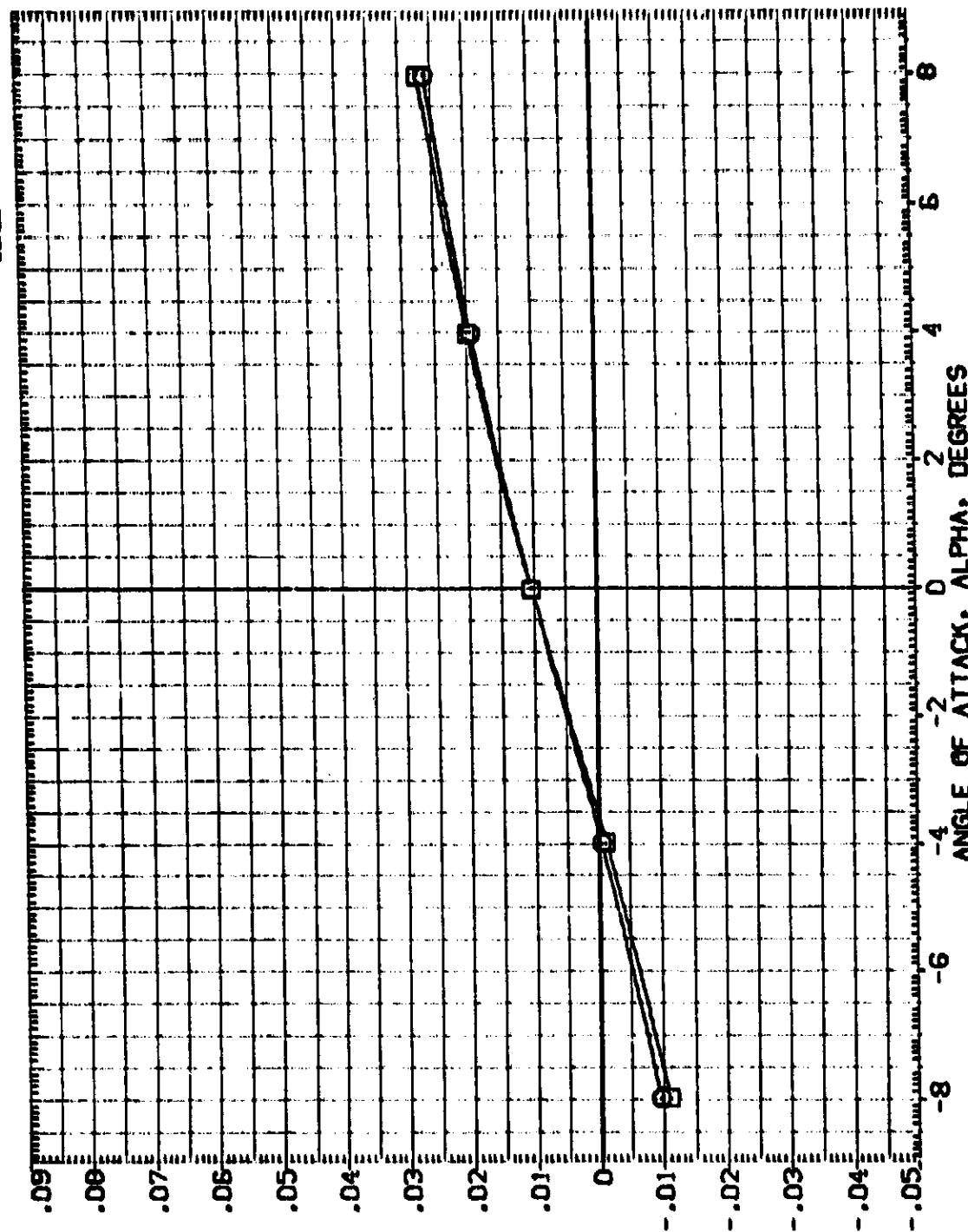


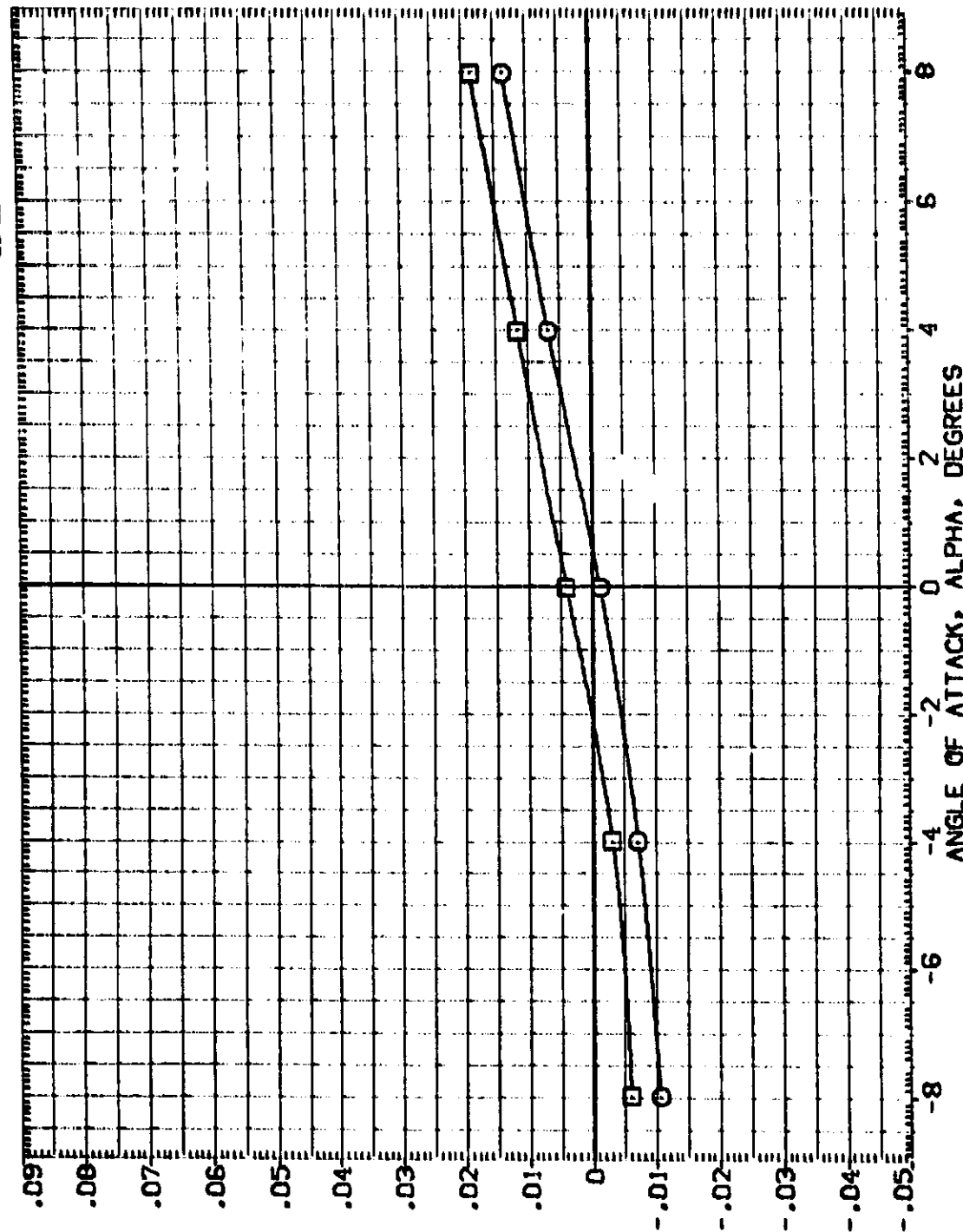
FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(M)MACH = 1.55

DATA SET SYMBOL: CONF IGURATION DESCRIPTION
 (FEJ005) 0 ASES 97-052 IA110 (01 112 S1 P2 PB)
 (XF7016) 1 IA70 01125IP2PB

ELV-08
 -4.000
 -4.000

REFERENCE INFORMATION
 SREF 2580.0000 SC.FT.
 LREF 474.8100 IN.
 BREF 535.5800 IN. XT
 XMRP 979.10000 IN. YT
 YMRP 400.10000 IN. ZT
 SCALE .0150



RIGHT WING TORSIONAL MOMENT COEFFICIENT, CTW-R

FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

MACH = 1.55

REFERENCE INFORMATION
 SREF 2950.0000 50.FT.
 LREF 474.0100 IN.
 BREF 536.6800 IN.
 XREF 579.0000 IN.
 YREF 400.0000 IN.
 ZREF 0150

ELV-03
 -4.000
 -4.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FE1005) 9 MES 97-052 IA110 (01 112 S1 P2 P8 1
 (XF7016) IA70 011125IP2P8

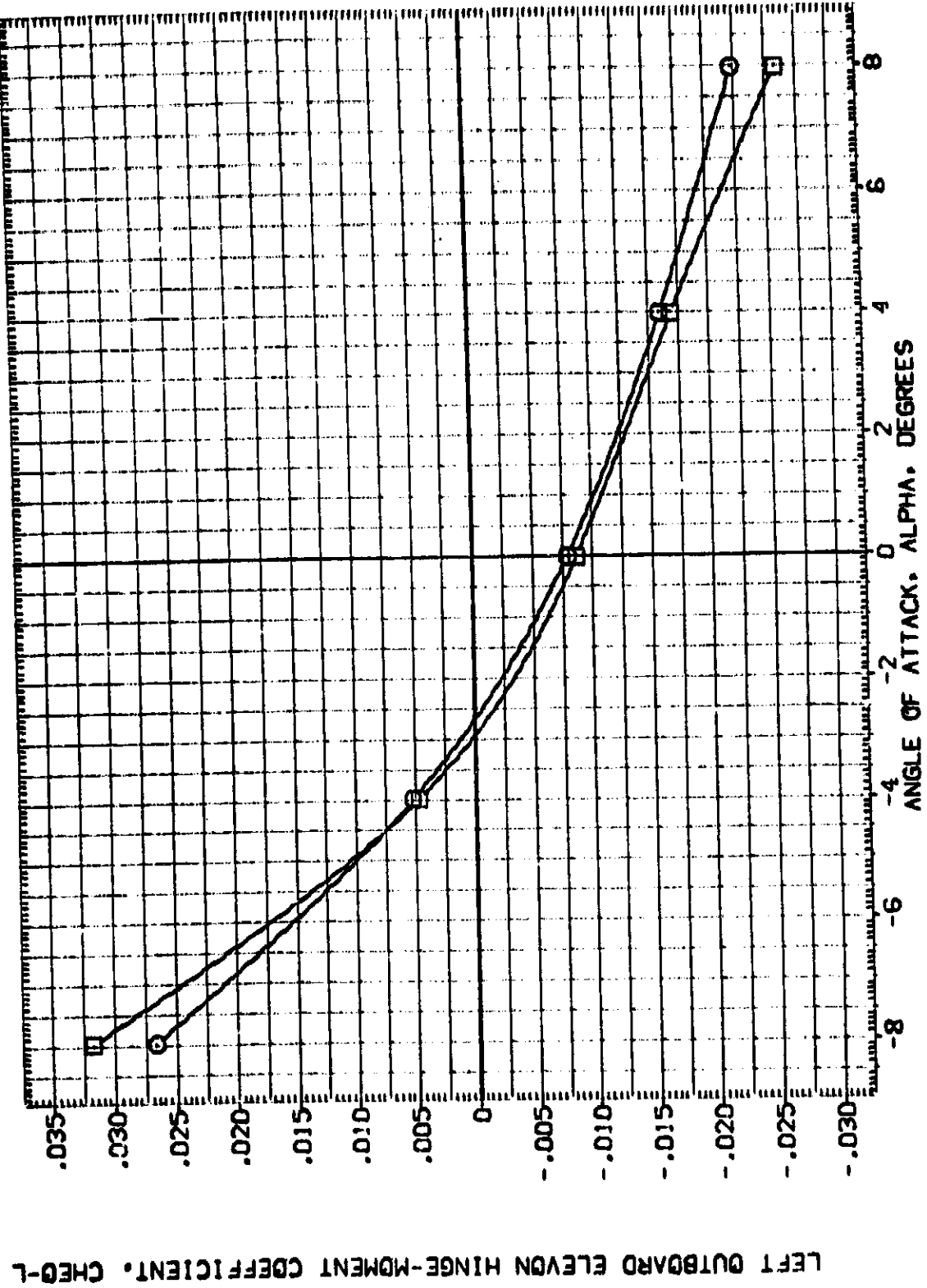


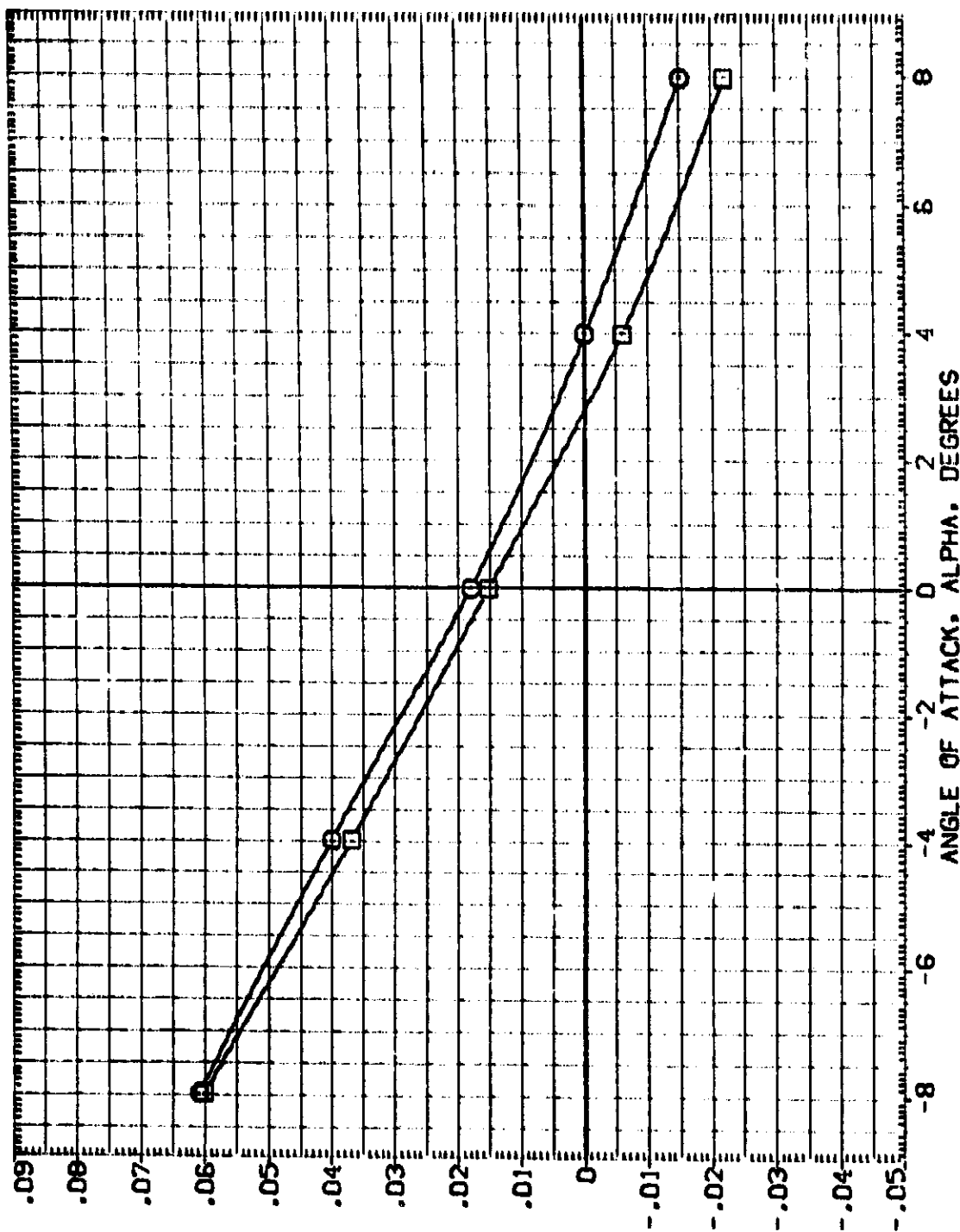
FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(A) MACH = 1.55

DATA SET SYMBOL: CONF IGURATION DESCRIPTION
 (FE1005) Q ASES 57-052 IA110 (01 T12 S1 P2 P8)
 (X7016) IA70 011125IP2P8

ELV-08
 -4.000
 -4.000

REFERENCE INFORMATION
 SREF 2650.0000 SQ.FT.
 LREF 474.8100 IN.
 BREF 536.6800 IN.
 XREF 579.0000 IN.
 YREF 400.0000 IN.
 ZREF 0150
 SCALE



LEFT INBOARD ELEVON HINGE-MOMENT COEFFICIENT, C_{H1-L}

FIG. 18 COMPARISON OF IA70 AND IA110 RESULTS

(A)MACH = 1.55

APPENDIX
TABULATED SOURCE DATA

Note: Data from test IA70 used in this report are included in the source data listing.

Tabulations of plotted data are available on request from Data Management Services.

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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (01 T12 S1 P2 P8)

(013003) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT.
 LREF = 474.8100 IN.
 WREF = 936.8800 IN.
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 9.000 ELV-03 = -4.000
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 FLUDGR = .000
 BETA = .000

RUN NO. 9/ 0 RIVL = 2.54 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	ALPHA	OHEI-L	OHEO-L	OHEI-L	OHEI-L	CBM2	CBM3	BETA
1.995	-8.097	.01690	.01700	.03380	-.00350	-.00360	-.00490	.25000
1.995	-8.046	.00760	.01230	-.00210	-.00330	-.00240	-.00330	-.5890
1.995	-4.043	-.00360	.00690	.00430	-.00110	-.00090	-.00590	.25910
1.995	-2.068	-.01070	-.00090	-.01170	.00140	.00070	-.00610	.26230
1.995	-.410	-.02190	-.00760	-.02970	.00420	.00290	-.00720	.25970
1.995	-.013	-.02260	-.00900	-.03170	.00470	.00290	-.00730	.26150
1.995	1.760	-.03330	-.01320	-.04690	.00770	.00490	-.00970	.25670
1.995	4.001	-.03970	-.02280	-.06240	.01170	.00750	-.00930	.24630
1.995	6.140	-.04300	-.02340	-.06340	.01540	.01010	-.00740	.23690
1.995	8.379	-.04460	-.02370	-.07030	.01610	.01290	-.00620	.23190
GRADIENT		-.00902	-.02366	-.00969	.00160	.00105	-.00037	-.00146

AMES 97-052 1A110 (01 T12 S1 P2 P8)

(013004) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT.
 LREF = 474.8100 IN.
 WREF = 936.8800 IN.
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 9.000 ELV-03 = -4.000
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 FLUDGR = .000
 BETA = .000

RUN NO. 11/ 0 RIVL = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	ALPHA	OHEI-L	OHEO-L	OHEI-L	OHEI-L	CBM2	CBM3	BETA
1.800	-8.073	.03290	.02070	.03370	-.00690	-.00470	-.00560	.64370
1.800	-6.074	.02400	.01310	.03910	-.00430	-.00330	-.00370	.65080
1.800	-4.072	.01300	.00560	.01670	-.00150	-.00110	-.00620	.65990
1.800	-2.043	.00320	-.00270	.00050	.00240	.00140	-.00790	.63240
1.800	-.062	-.07470	-.00790	-.01210	.00490	.00310	-.00790	.64790
1.800	-.086	-.00910	-.01090	-.01960	.00620	.00490	-.00810	.64920
1.800	1.466	-.01630	-.01630	-.03470	.00940	.00610	-.00900	.64920
1.800	3.981	-.02690	-.02160	-.04660	.01430	.00960	-.00730	.63930
1.800	5.936	-.02930	-.02400	-.05330	.01790	.01160	-.00370	.63520
1.800	7.936	-.03320	-.02630	-.05970	.02020	.01390	-.00430	.62790
GRADIENT		-.00911	-.00345	-.00956	.00199	.00133	-.00012	-.00146



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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (Q1 T12 S1 P2 P6)

GRIE0053 (03 AUG 74)

REFERENCE DATA

SREP = 2680.0000 SQ.FT.
 LREP = 474.0100 IN.
 BREP = 936.0000 IN.
 SCALE = .0150

XMRP = 979.0000 IN. XT
 YMRP = .0000 IN. YT
 ZMRP = 400.0000 IN. ZT
 ELV-18 = 9.000
 ELV-CB = -4.000
 RIVL = 2.500
 R0FLAP = .000
 SP00RK = .000
 R000ER = .000
 BETA = .000

PARAMETRIC DATA

RUN NO. 13/ 0 RIVL = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	OHEI-L	OHEO-L	OHEI-L	OHEO-L	CBAL	CTAS	BETA
2.547	-8.074	.06120	.02710	.00830	-.00960	-.00370	-.00400	.57430
1.547	-8.060	.05110	.01500	.04800	-.00510	-.00340	-.00360	.56910
1.547	-4.031	.04030	.00530	.04560	-.00090	-.00020	-.00080	.57960
1.547	-2.046	.03050	-.00110	.02940	.00420	.00300	-.00710	.57420
1.547	-.099	.01670	-.00760	.01110	.00690	.00810	-.00370	.57130
1.547	1.667	.00560	-.01290	-.00750	.01310	.02900	-.02660	.56950
1.547	3.931	.00000	-.01590	-.01900	.01710	.01170	-.00470	.56630
1.547	5.968	-.00760	-.01930	-.02710	.02040	.01390	-.02290	.55330
1.547	7.993	-.01510	-.02230	-.03740	.02310	.01940	-.03160	.54820
GRADIENT		-.00531	-.00272	-.00903	.02222	.00150	.02324	-.00147

REFERENCE DATA

SREP = 2680.0000 SQ.FT.
 LREP = 474.0100 IN.
 BREP = 936.0000 IN.
 SCALE = .0150

XMRP = 979.0000 IN. XT
 YMRP = .0000 IN. YT
 ZMRP = 400.0000 IN. ZT
 ELV-18 = 9.000
 ELV-CB = -4.000
 RIVL = 2.500
 R0FLAP = .000
 SP00RK = .000
 R000ER = .000
 ALPHA = .000

PARAMETRIC DATA

RUN NO. 6/ 0 RIVL = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WACH	BETA	OHEI-L	OHEO-L	OHEI-L	OHEO-L	CBAL	CTAS	ALPHA
2.498	-7.676	-.07970	.00120	-.07050	.00250	.00200	-.00330	-.42360
2.498	-5.720	-.07980	.00170	-.07410	.00260	.00190	-.00320	-.41720
2.498	-3.575	-.06930	.00000	-.04630	.00250	.00140	-.00330	-.41240
2.498	-1.369	-.05360	-.00100	-.03490	.00230	.00100	-.00470	-.41290
2.498	.753	-.03140	-.00200	-.03340	.00190	.00090	-.02490	-.41190
2.498	2.932	-.01620	-.00390	-.02200	.00260	.00100	-.02660	-.40650
2.498	5.097	-.00460	-.02190	-.00170	.00270	.00100	-.00740	-.39960
2.498	7.249	.00370	.00000	.00370	.00330	.00140	-.02040	-.39520
2.498	9.379	.00560	.00260	.00630	.00420	.00000	-.00950	-.39710
GRADIENT		.00794	-.00357	.00737	-.00000	-.00206	-.00051	.02396

AMES 97-052 1A110 (Q1 T12 S1 P2 P6)

GRIE0060 (03 AUG 74)

AMES 97-052 1A110 (Q1 T12 S1 P2 P0)

REF ID: A63434

REFERENCE DATA

SW27 =	2650.0000	50. FT.	1961P =	979.0000	IN.	X6
LR27 =	474.0100	IN.	Y161P =	.0000	IN.	Y7
BR27 =	938.8900	IN.	Z161P =	400.0000	IN.	Z7
SCALE =	.0150					

PARAMETRIC DATA

ELV-1B = 8.000 ELV-GB =
RWL = 2.500 TOPFLAP =
SPDSEN = .000 INJUGEN =
BETA = .000

RUN NO. 13/ 0 RM/L = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	O4E1-L	O4E2-L	O4E1-L	O4E1	CH2	CH3	BETA
2.498	-7.839	-0.01010	0.00400	-0.00010	-0.00240	-0.00400	-0.02310	.77973
2.498	-5.861	-0.01820	0.00020	-0.01620	-0.00110	-0.00360	-0.02310	.78322
2.498	-3.876	-0.02320	-0.00340	-0.02440	0.00000	-0.00290	-0.02320	.78110
2.498	-1.927	-0.02940	-0.00700	-0.03440	0.00130	-0.00200	-0.02340	.77940
2.498	.127	-0.03630	-0.01000	-0.04830	0.00300	-0.00100	-0.02400	.77350
2.498	1.413	-0.04300	-0.01200	-0.05770	0.00400	-0.00040	-0.02470	.77220
2.498	3.923	-0.05060	-0.01600	-0.06940	0.00500	0.00120	-0.02520	.76140
2.498	8.131	-0.04960	-0.02410	-0.07370	0.00600	0.00300	-0.02570	.75390
2.498	8.330	-0.04970	-0.02990	-0.07760	0.01240	0.00520	-0.02720	.74800
	GRADIENT	-0.00370	-0.00191	-0.00562	0.00090	0.00075	-0.00229	-0.00245

REFERENCE DATA

SEF =	2800.0000	50.FT.	Y6P =	979.0000	IN. XT
LEF =	674.8100	IN.	Y6P =	.0000	IN. YT
BEF =	936.6920	IN.	Z6P =	400.0000	IN. ZT
SCALE =	.0150				

PARAMETRIC DATA

ELV-10 =	0.000	ELV-09 =	.000
RMVL =	2.500	REFLAP =	.000
SPOBKA =	.000	RUDDER =	.000
BETA =	.000		

AMES 97-052 1A110 (Q1 T12 S1 P2 P0)

REF ID: A67413

RUN NO. 17/ 0 RVL = 2.54 GRADIENT INTERVAL = -5.00V 9.00

WMO#	ALPHA	O4E1-L	O4EO-L	O4E1-L	O4A	CR-2	CR3	BETA
1.998	-8.0460	.01380	.02695	.02040	-.00450	-.00350	-.00360	.25290
1.998	-6.048	.00410	.03180	.00590	-.00220	-.00220	-.00395	.23790
1.998	-4.070	-.00420	-.00360	-.00780	-.00010	.00120	-.00410	.23740
1.998	-2.073	-.01440	-.01270	-.02710	.00240	.00295	-.00459	.21935
1.998	-.0020	-.00880	-.002090	-.04770	.00590	.00330	-.00620	.26110
1.998	1.747	.03710	.02740	.04450	.00990	.00710	-.00585	.25670
1.998	3.908	.04450	.03490	.07900	.01260	.00970	-.00730	.24690
1.998	6.123	.04460	.03490	.07910	.01670	.01070	-.00730	.23590
1.998	8.343	.04960	.03610	.08370	.01930	.01260	-.00730	.23130
CR401ENT		-.00517	-.00363	-.00400	.00162	.00106	-.00242	-.00124

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TABULATED SOURCE DATA - 1A110

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ANES 97-052 1A110 (ON T12 S1 P2 PG)

08E10137 (03 AUG 74)

REFERENCE DATA

SHOT = 2000.0000 50. FT.
 LINEP = 474.8100 IN.
 SHOT = 936.0900 IN.
 SCALE = .0150

XMRP = 979.0000 IN. XT
 YMRP = .0000 IN. YT
 ZMRP = 400.0000 IN. ZT

ELY-10 = 0.000 ELY-OB = .000
 RM/L = 2.500 RMFLAP = .000
 SPORER = .000 NUMBER = .000
 BETA = .000

PARAMETRIC DATA

RUN NO. 18/ 0 RM/L = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	ONE-L	ONE-L	ONE-L	ONE-L	ONE-L	ONE-L	BETA
1.547	-6.072	.05770	.01090	.04940	.00700	.00300	.00360	.37200
1.547	-6.063	.04720	.00100	.04820	.00350	.00260	.00480	.37100
1.547	-6.045	.03660	.00810	.02750	.00150	.00300	.00570	.37000
1.547	-2.055	.02610	.01600	.01000	.00360	.00620	.00620	.37000
1.547	-1.120	.01450	.02160	.00750	.01040	.00690	.00640	.37000
1.547	1.958	.00140	.02880	.02540	.01460	.00590	.00560	.37200
1.547	3.912	.00370	.02910	.03260	.01950	.01240	.00370	.36300
1.547	5.958	.01100	.03160	.04260	.02160	.01470	.00190	.36600
1.547	7.963	.01950	.03400	.05250	.02450	.01640	.00250	.36900
	GRADIENT	.00330	.00256	.00766	.00222	.00151	.00203	.00175

REFERENCE DATA

SHOT = 2000.0000 50. FT.
 LINEP = 474.8100 IN.
 SHOT = 936.0900 IN.
 SCALE = .0150

XMRP = 979.0000 IN. XT
 YMRP = .0000 IN. YT
 ZMRP = 400.0000 IN. ZT

ELY-10 = 0.000 ELY-OB = .000
 RM/L = 2.500 RMFLAP = .000
 SPORER = .000 NUMBER = .000
 ALPHA = .000

PARAMETRIC DATA

RUN NO. 18/ 0 RM/L = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

WICH	BETA	ONE-L	ONE-L	ONE-L	ONE-L	ONE-L	ONE-L	ALPHA
2.496	-7.960	.06400	.00750	.06150	.00360	.00310	.00160	-.42320
2.496	-6.036	.06130	.00600	.06750	.00350	.00320	.00140	-.41840
2.496	-3.952	.07320	.00730	.06940	.00340	.00250	.00130	-.41260
2.496	-1.363	.05640	.00640	.06460	.00330	.00260	.00090	-.41090
2.496	-.064	.04140	.00620	.05063	.00290	.00100	.00090	-.41450
2.496	1.956	.02890	.01050	.05630	.00300	.00100	.00470	-.41300
2.496	3.884	.01400	.01050	.02450	.00350	.00090	.00560	-.40590
2.496	5.934	.03400	.03750	.01190	.00360	.00090	.00620	-.40430
2.496	7.953	.00170	.00350	.03390	.03440	.00220	.00750	-.40320
	GRADIENT	.00760	.00044	.00715	.00031	.00004	.00034	.00061

AMES 97-032 1A110 (04 T12 S1 P2 P6)

(RES1015) (03 AUG 74)

REFERENCE DATA

WREF = 2480.0000 SQ.FT. XREF = 979.0000 IN. XT
 LREF = 474.8100 IN. YREF = .0000 IN. YT
 BREF = 936.6900 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 0.000 ELV-CB = .000
 RM/L = 2.500 SDFLAP = .000
 SPDRK = .000 RUDDER = .000
 ALPHA = .000

RUN NO. 18/ 0 RM/L = 2.54 GRADIENT INTERVAL = -3.00/ 5.00

WACH	BETA	CH1-L	CH2-L	CH3-L	CH4-L	CH5-L	CH6-L	CH7-L	CH8-L	CH9-L	CH10-L	CH11-L	CH12-L	CH13-L	CH14-L	CH15-L	CH16-L	CH17-L	CH18-L	CH19-L	CH20-L	CH21-L	CH22-L	CH23-L	CH24-L	CH25-L	CH26-L	CH27-L	CH28-L	CH29-L	CH30-L	CH31-L	CH32-L	CH33-L	CH34-L	CH35-L	CH36-L	CH37-L	CH38-L	CH39-L	CH40-L	CH41-L	CH42-L	CH43-L	CH44-L	CH45-L	CH46-L	CH47-L	CH48-L	CH49-L	CH50-L	CH51-L	CH52-L	CH53-L	CH54-L	CH55-L	CH56-L	CH57-L	CH58-L	CH59-L	CH60-L	CH61-L	CH62-L	CH63-L	CH64-L	CH65-L	CH66-L	CH67-L	CH68-L	CH69-L	CH70-L	CH71-L	CH72-L	CH73-L	CH74-L	CH75-L	CH76-L	CH77-L	CH78-L	CH79-L	CH80-L	CH81-L	CH82-L	CH83-L	CH84-L	CH85-L	CH86-L	CH87-L	CH88-L	CH89-L	CH90-L	CH91-L	CH92-L	CH93-L	CH94-L	CH95-L	CH96-L	CH97-L	CH98-L	CH99-L	CH100-L	CH101-L	CH102-L	CH103-L	CH104-L	CH105-L	CH106-L	CH107-L	CH108-L	CH109-L	CH110-L	CH111-L	CH112-L	CH113-L	CH114-L	CH115-L	CH116-L	CH117-L	CH118-L	CH119-L	CH120-L	CH121-L	CH122-L	CH123-L	CH124-L	CH125-L	CH126-L	CH127-L	CH128-L	CH129-L	CH130-L	CH131-L	CH132-L	CH133-L	CH134-L	CH135-L	CH136-L	CH137-L	CH138-L	CH139-L	CH140-L	CH141-L	CH142-L	CH143-L	CH144-L	CH145-L	CH146-L	CH147-L	CH148-L	CH149-L	CH150-L	CH151-L	CH152-L	CH153-L	CH154-L	CH155-L	CH156-L	CH157-L	CH158-L	CH159-L	CH160-L	CH161-L	CH162-L	CH163-L	CH164-L	CH165-L	CH166-L	CH167-L	CH168-L	CH169-L	CH170-L	CH171-L	CH172-L	CH173-L	CH174-L	CH175-L	CH176-L	CH177-L	CH178-L	CH179-L	CH180-L	CH181-L	CH182-L	CH183-L	CH184-L	CH185-L	CH186-L	CH187-L	CH188-L	CH189-L	CH190-L	CH191-L	CH192-L	CH193-L	CH194-L	CH195-L	CH196-L	CH197-L	CH198-L	CH199-L	CH200-L	CH201-L	CH202-L	CH203-L	CH204-L	CH205-L	CH206-L	CH207-L	CH208-L	CH209-L	CH210-L	CH211-L	CH212-L	CH213-L	CH214-L	CH215-L	CH216-L	CH217-L	CH218-L	CH219-L	CH220-L	CH221-L	CH222-L	CH223-L	CH224-L	CH225-L	CH226-L	CH227-L	CH228-L	CH229-L	CH230-L	CH231-L	CH232-L	CH233-L	CH234-L	CH235-L	CH236-L	CH237-L	CH238-L	CH239-L	CH240-L	CH241-L	CH242-L	CH243-L	CH244-L	CH245-L	CH246-L	CH247-L	CH248-L	CH249-L	CH250-L	CH251-L	CH252-L	CH253-L	CH254-L	CH255-L	CH256-L	CH257-L	CH258-L	CH259-L	CH260-L	CH261-L	CH262-L	CH263-L	CH264-L	CH265-L	CH266-L	CH267-L	CH268-L	CH269-L	CH270-L	CH271-L	CH272-L	CH273-L	CH274-L	CH275-L	CH276-L	CH277-L	CH278-L	CH279-L	CH280-L	CH281-L	CH282-L	CH283-L	CH284-L	CH285-L	CH286-L	CH287-L	CH288-L	CH289-L	CH290-L	CH291-L	CH292-L	CH293-L	CH294-L	CH295-L	CH296-L	CH297-L	CH298-L	CH299-L	CH300-L	CH301-L	CH302-L	CH303-L	CH304-L	CH305-L	CH306-L	CH307-L	CH308-L	CH309-L	CH310-L	CH311-L	CH312-L	CH313-L	CH314-L	CH315-L	CH316-L	CH317-L	CH318-L	CH319-L	CH320-L	CH321-L	CH322-L	CH323-L	CH324-L	CH325-L	CH326-L	CH327-L	CH328-L	CH329-L	CH330-L	CH331-L	CH332-L	CH333-L	CH334-L	CH335-L	CH336-L	CH337-L	CH338-L	CH339-L	CH340-L	CH341-L	CH342-L	CH343-L	CH344-L	CH345-L	CH346-L	CH347-L	CH348-L	CH349-L	CH350-L	CH351-L	CH352-L	CH353-L	CH354-L	CH355-L	CH356-L	CH357-L	CH358-L	CH359-L	CH360-L	CH361-L	CH362-L	CH363-L	CH364-L	CH365-L	CH366-L	CH367-L	CH368-L	CH369-L	CH370-L	CH371-L	CH372-L	CH373-L	CH374-L	CH375-L	CH376-L	CH377-L	CH378-L	CH379-L	CH380-L	CH381-L	CH382-L	CH383-L	CH384-L	CH385-L	CH386-L	CH387-L	CH388-L	CH389-L	CH390-L	CH391-L	CH392-L	CH393-L	CH394-L	CH395-L	CH396-L	CH397-L	CH398-L	CH399-L	CH400-L	CH401-L	CH402-L	CH403-L	CH404-L	CH405-L	CH406-L	CH407-L	CH408-L	CH409-L	CH410-L	CH411-L	CH412-L	CH413-L	CH414-L	CH415-L	CH416-L	CH417-L	CH418-L	CH419-L	CH420-L	CH421-L	CH422-L	CH423-L	CH424-L	CH425-L	CH426-L	CH427-L	CH428-L	CH429-L	CH430-L	CH431-L	CH432-L	CH433-L	CH434-L	CH435-L	CH436-L	CH437-L	CH438-L	CH439-L	CH440-L	CH441-L	CH442-L	CH443-L	CH444-L	CH445-L	CH446-L	CH447-L	CH448-L	CH449-L	CH450-L	CH451-L	CH452-L	CH453-L	CH454-L	CH455-L	CH456-L	CH457-L	CH458-L	CH459-L	CH460-L	CH461-L	CH462-L	CH463-L	CH464-L	CH465-L	CH466-L	CH467-L	CH468-L	CH469-L	CH470-L	CH471-L	CH472-L	CH473-L	CH474-L	CH475-L	CH476-L	CH477-L	CH478-L	CH479-L	CH480-L	CH481-L	CH482-L	CH483-L	CH484-L	CH485-L	CH486-L	CH487-L	CH488-L	CH489-L	CH490-L	CH491-L	CH492-L	CH493-L	CH494-L	CH495-L	CH496-L	CH497-L	CH498-L	CH499-L	CH500-L	CH501-L	CH502-L	CH503-L	CH504-L	CH505-L	CH506-L	CH507-L	CH508-L	CH509-L	CH510-L	CH511-L	CH512-L	CH513-L	CH514-L	CH515-L	CH516-L	CH517-L	CH518-L	CH519-L	CH520-L	CH521-L	CH522-L	CH523-L	CH524-L	CH525-L	CH526-L	CH527-L	CH528-L	CH529-L	CH530-L	CH531-L	CH532-L	CH533-L	CH534-L	CH535-L	CH536-L	CH537-L	CH538-L	CH539-L	CH540-L	CH541-L	CH542-L	CH543-L	CH544-L	CH545-L	CH546-L	CH547-L	CH548-L	CH549-L	CH550-L	CH551-L	CH552-L	CH553-L	CH554-L	CH555-L	CH556-L	CH557-L	CH558-L	CH559-L	CH560-L	CH561-L	CH562-L	CH563-L	CH564-L	CH565-L	CH566-L	CH567-L	CH568-L	CH569-L	CH570-L	CH571-L	CH572-L	CH573-L	CH574-L	CH575-L	CH576-L	CH577-L	CH578-L	CH579-L	CH580-L	CH581-L	CH582-L	CH583-L	CH584-L	CH585-L	CH586-L	CH587-L	CH588-L	CH589-L	CH590-L	CH591-L	CH592-L	CH593-L	CH594-L	CH595-L	CH596-L	CH597-L	CH598-L	CH599-L	CH600-L	CH601-L	CH602-L	CH603-L	CH604-L	CH605-L	CH606-L	CH607-L	CH608-L	CH609-L	CH610-L	CH611-L	CH612-L	CH613-L	CH614-L	CH615-L	CH616-L	CH617-L	CH618-L	CH619-L	CH620-L	CH621-L	CH622-L	CH623-L	CH624-L	CH625-L	CH626-L	CH627-L	CH628-L	CH629-L	CH630-L	CH631-L	CH632-L	CH633-L	CH634-L	CH635-L	CH636-L	CH637-L	CH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DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

3
PAGE

AMES 97-052 1A110 (Q1 Y12 S1 P2 M1)

01210171 (03 AUG 74)

REFERENCE DATA

SRT = 2000.0000 30.FT.
 LRT = 474.8100 1IN.
 CRT = 436.0000 1IN.
 SCALE = .0150

P = 979,0000 1M. XT
P = .0000 1M. YT
P = 400,0000 1M. ZT

ELV-18 =	0.000	ELV-08 =	-0.000
RAWL =	2.500	REFLAP =	.000
SPOON =	.000	RUGGER =	.000
BETA =	.000		

RUN NO. 23/ 0 RWL = 2.32 COEFFICIENT INTERVAL = -5.00/ 5.00

[illegible]

REFERENCE DATA

SRF = 2000.0000 SQ. FT.
LWF = 474.0100 IN.
BRF = 930.0000 IN.
SCALE = .0150

P = 979,0000 IM. XI
P = .0000 IN. YI
P = 400,0000 IM. ZI

ELV-1B =	0.000	ELV-0B =	-0.000
INVL =	2.500	SOFLAP =	.000
SPOOK =	.000	FLUDER =	.000
BETA =	.000		

RUN NO. 23/ 0 RM/L = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

AMEB 97-092 1A110 : 04 112 31 P2 P4 :

REF ID: A674

REFERENCE DATA

BRIP	=	2660.0000	30. FT.	266P	=	979.0000	IN.	XT
LRIP	=	474.0100	IN.	YRIP	=	.0000	IN.	YT
BRIP	=	936.0000	IN.	ZRIP	=	400.0000	IN.	ZT
SCAL	=	.0150						

Run No.	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
Run No.	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300

WASH	BETA	O-EL-L	O-ED-L	O-EL-L	CD-1	CD-2	CD-3	ALPHA
1.996	-0.040	-0.0240	0.0240	-0.9000	0.0250	0.0210	0.0000	-0.41990
1.996	-6.026	-0.3220	0.0900	-0.4930	0.0350	0.0210	0.0040	-0.41400
1.996	-4.019	-0.5040	0.0940	-0.4700	0.0940	0.0210	0.0020	-0.40940
1.996	-2.061	-0.4270	0.0940	-0.9930	0.0360	0.0190	0.0040	-0.40960
1.996	-0.036	-0.2490	0.0260	-0.2340	0.0350	0.0170	-0.00370	-0.40100
1.996	2.006	-0.0290	0.0460	-0.0000	0.0360	0.0170	-0.09500	-0.39440
1.996	3.964	-0.0040	0.0190	0.0740	0.0420	0.0190	-0.00600	-0.39270
1.996	5.996	0.0950	0.0310	0.2290	0.0460	0.0240	-0.09700	-0.39130
1.996	8.012	0.0130	0.0160	0.0290	0.0320	0.0240	-0.00790	-0.37670
GRADIENT		0.0644	0.0052	0.0496	0.0007	-0.0003	-0.02060	-0.02314

PHARMACETIC DATA

[illegible]

REFERENCE DATA

YARP =	979,0000	IN. YI
YARP =	.0000	IN. YI
ZARP =	400,0000	IN. ZI
SCALE =	.0150	

RUN NO. 22/ 0 RVL = 2.52 GRADIENT INTERVAL = -5.00V 5.00

PARAM	BETA	CMEI-L	CMEO-L	CMEI-L	CDM	CMLE	CTG	ALPHA
1	-7.979	-.00160	.00190	-.00010	.00300	.00220	.00340	-.93410
2	-5.961	-.00160	.00190	.00030	.00360	.00270	.00230	-.93180
3	-3.979	-.00090	.00360	.00230	.00480	.00300	.00209	-.93280
4	-2.012	.00290	.00400	.00690	.00650	.00340	.00070	-.93210
5	-.107	.01220	.00340	.01760	.00690	.00430	-.00230	-.94030
6	1.962	.00250	.00990	.03240	.00720	.00430	-.00359	-.57340
7	3.940	.00670	.01490	.04360	.00790	.00440	-.00490	-.57930
8	5.954	.00990	.02160	.09190	.00840	.00460	-.00760	-.53270
9	8.033	.00790	.02960	.03760	.00900	.00330	-.00790	-.92260
GRADIENT		.00596	.00148	.00346	.00041	.00016	-.00120	-.00329

VIDEO DISCUSSION

ELY-1B =	0.000	ELY-OB =	-0.000
RNVL =	2.500	BOFLAP =	.000
SPODEK =	.000	RUDDER =	.000
ALPHA =	.000		

DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (08 112 S1 P2 P0)

GRE1023) (03 AUG 74)

REFERENCE DATA

SRIF = 2690.0000 50.FT. XREF = 979.0000 IN. XT
 LREF = 476.8100 IN. YREF = .0000 IN. YT
 BRIF = 936.8000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = .000
 RV/L = 2.500 EOP/LAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 27/ 0 RV/L = 2.52 GRADIENT INTERVAL = -3.00/ 3.00

MACH	ALPHA	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	BETA
1.547	-6.054	.02100	.01040	.03140	.00630	.00450	.00610	.56450	
1.547	-6.052	.01020	.00300	.02920	.00280	.00110	.00710	.56770	
1.547	-4.024	.00050	.00920	.00870	.00180	.00100	.00930	.56970	
1.547	-2.035	.00760	.01700	.02470	.00650	.00420	.00840	.57270	
1.547	-1.06	.01930	.02250	.04220	.01120	.00730	.00960	.56760	
1.547	1.972	.03210	.02910	.06050	.01560	.01040	.00900	.56390	
1.547	3.923	.03770	.03060	.06920	.01910	.01260	.00610	.56370	
1.547	5.949	.04360	.03320	.07700	.02240	.01500	.00420	.53160	
1.547	7.971	.04930	.03550	.08480	.02510	.01690	.00260	.54430	
GRADIENT		.00507	.00271	.00777	.00220	.00150	.00025	-.0012	

AMES 97-052 1A110 (08 112 S1 P2 P0)

GRE1024) (03 AUG 74)

REFERENCE DATA

SRIF = 2690.0000 50.FT. XREF = 979.0000 IN. XT
 LREF = 476.8100 IN. YREF = .0000 IN. YT
 BRIF = 936.8000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = .000
 RV/L = 2.760 EOP/LAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 28/ 0 RV/L = 2.76 GRADIENT INTERVAL = -3.00/ 3.00

MACH	ALPHA	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	CHET-L	BETA
1.995	-6.208	.01520	.00770	.00750	.00400	.00300	.00350	.25180	
1.995	-6.146	.02550	.00250	.02100	.00170	.00140	.00360	.25590	
1.995	-4.137	.03130	.00290	.03420	.00040	.00000	.00990	.25360	
1.995	-2.120	.04130	.01280	.05410	.00300	.00160	.07660	.26050	
1.995	-.042	.05320	.02110	.07430	.00440	.00390	.00600	.25770	
1.995	1.977	.06460	.02860	.09320	.00960	.00610	.00680	.25590	
1.995	4.017	.07030	.03510	.10340	.01340	.00850	.00900	.24260	
1.995	6.025	.06680	.03520	.10340	.01700	.01100	.00820	.23620	
1.995	8.045	.07010	.03700	.10710	.01950	.01290	.00680	.22990	
GRADIENT		.00497	.00393	.00690	.00161	.00105	-.00041	-.00133	

AMES 97-052 1A110 (Q1 T12 31 P2 P8)

0001029 (08 AUG 74)

REFERENCE DATA

9807 =	2650.0000	50.FT.	YARP =	979.0000	IN. YI
L807 =	474.0100	IN.	YARP =	.0000	IN. YI
M807 =	936.0000	IN.	ZARP =	400.0000	IN. ZI
SCALE =	.0150				

PARAMETRIC DATA

ELV-1B =	12.000	ELV-OB =	-4.000
RWL =	2.500	SOLAP =	.000
SPOBKK =	.000	RUDER =	.000
BETA =	.000		

RUN NO.	SD	RM/L	GRADIENT INTERVAL
1	0	2.32	-3.00/ 3.00

WMO1	ALPHA	OM1-L	OM2-L	OM3-L	OM4-L	OM5-L	OM6-L	OM7-L	BETA
1.998	-8.073	-0.1530	0.01770	0.0248	-0.00490	-0.00370	-0.00420	0.24730	
1.998	-6.053	-0.0260	0.01260	-0.1100	-0.00260	-0.00220	-0.00440	0.24660	
1.998	-4.078	-0.03210	0.00670	-0.02530	-0.00040	-0.00080	-0.00470	0.24620	
1.998	-2.073	-0.04050	-0.00190	-0.04230	0.00210	0.00060	-0.00540	0.23710	
1.998	-0.019	-0.03950	-0.01000	-0.04950	0.00540	0.00310	-0.00670	0.23590	
1.998	1.973	-0.0430	-0.01750	-0.0180	0.00960	0.00320	-0.00740	0.23340	
1.998	3.948	-0.08920	-0.02350	-0.09340	0.01220	0.00750	-0.00750	0.24360	
1.998	5.978	-0.06860	-0.02430	-0.09500	0.01500	0.00990	-0.00790	0.23490	
1.998	7.943	-0.07020	-0.02430	-0.09660	0.01830	0.01060	-0.00560	0.22760	
								0.22160	
								0.20123	
								0.20034	
								0.20104	
								0.20156	
								0.20171	
								0.20176	
								0.20183	
								0.20188	
								0.20193	
								0.20198	
								0.20203	
								0.20208	
								0.20213	
								0.20218	
								0.20223	
								0.20228	
								0.20233	
								0.20238	
								0.20243	
								0.20248	
								0.20253	
								0.20258	
								0.20263	
								0.20268	
								0.20273	
								0.20278	
								0.20283	
								0.20288	
								0.20293	
								0.20298	
								0.20303	
								0.20308	
								0.20313	
								0.20318	
								0.20323	
								0.20328	
								0.20333	
								0.20338	
								0.20343	
								0.20348	
								0.20353	
								0.20358	
								0.20363	
								0.20368	
								0.20373	
								0.20378	
								0.20383	
								0.20388	
								0.20393	
								0.20398	
								0.20403	
								0.20408	
								0.20413	
								0.20418	
								0.20423	
								0.20428	
								0.20433	
								0.20438	
								0.20443	
								0.20448	
								0.20453	
								0.20458	
								0.20463	
								0.20468	
								0.20473	
								0.20478	
								0.20483	
								0.20488	
								0.20493	
								0.20498	
								0.20503	
								0.20508	
								0.20513	
								0.20518	
								0.20523	
								0.20528	
								0.20533	
								0.20538	
								0.20543	
								0.20548	
								0.20553	
								0.20558	
								0.20563	
								0.20568	
								0.20573	
								0.20578	
								0.20583	
								0.20588	
								0.20593	
								0.20598	
								0.20603	
								0.20608	
								0.20613	
								0.20618	
								0.20623	
								0.20628	
								0.20633	
								0.20638	
								0.20643	
								0.20648	
								0.20653	
								0.20658	
								0.20663	
								0.20668	
								0.20673	
								0.20678	
								0.20683	
								0.20688	
								0.20693	
								0.20698	
								0.20703	
								0.20708	
								0.20713	
								0.20718	
								0.20723	
								0.20728	
								0.20733	
								0.20738	
								0.20743	
								0.20748	
								0.20753	
								0.20758	
								0.20763	
								0.20768	
								0.20773	
								0.20778	
								0.20783	
								0.20788	
								0.20793	
								0.20798	
								0.20803	
								0.20808	
								0.20813	
								0.20818	
								0.20823	
								0.20828	
								0.20833	
								0.20838	
								0.20843	
								0.20848	
								0.20853	
								0.20858	
								0.20863	
								0.20868	
								0.20873	
								0.20878	
								0.20883	
								0.20888	
								0.20893	
								0.20898	
								0.20903	
								0.20908	
								0.20913	
								0.20918	
								0.20923	
								0.20928	
								0.20933	
								0.20938	
								0.20943	
								0.20948	
								0.20953	
								0.20958	
								0.20963	
								0.20968	
								0.20973	
								0.20978	
								0.20983	
								0.20988	
								0.20993	
								0.20998	
								0.21003	
								0.21008	
								0.21013	
								0.21018	
								0.21023	
								0.21028	
								0.21033	
								0.21038	
								0.21043	
								0.21048	
								0.21053	
								0.21058	
								0.21063	
								0.21068	
								0.21073	
								0.21078	
								0.21083	
								0.21088	
								0.21093	
								0.21098	
								0.21103	
								0.21108	
								0.21113	
								0.21118	
								0.21123	
								0.21128	
								0.21133	
								0.21138	
								0.21143	
								0.21148	
								0.21153	
								0.21158	
								0.21163	
								0.21168	
								0.21173	
								0.21178	
								0.21183	
								0.21188	
								0.21193	
								0.21198	
								0.21203	
								0.21208	
								0.21213	
								0.21218	
								0.21223	
								0.21228	
								0.21233	
								0.21238	
								0.21243	
								0.21248	
								0.21253	
								0.21258	
								0.21263	
								0.21268	
								0.21273	
								0.21278	
								0.21283	
								0.21288	
								0.21293	
								0.21298	
								0.21303	
								0.21308	
								0.21313	
								0.21318	
								0.21323	

REFERENCE DATA

SAF =	2880.0000	50.FT.	288P =	979.0000	IN. YI
LAF =	474.8100	IN.	YAP =	.0000	IN. YI
WAF =	936.8400	IN.	ZAP =	400.0000	IN. ZI
SCALE =	.0150				

PARAMETRIC DATA

ELV-1B =	12.000	ELV-03 =	-4.000
RNVL =	2.500	EDFLAP =	.000
SPDRK =	.000	RUGGER =	.000
BETA =	.000		

AMES 97-052 1A11D (Q1 T12 S1 P2 P8)

REF ID: A67410 (03 AUG 74)

RUN NO.	TS/0	RAWL =	2.51	GRADIENT INTERVAL =	-5.00V	5.00
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[illegible]

DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (04 112 31 P2 P0)

(0E1001) (05 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XPRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YPRP = .0000 IN. YT
 SREF = 936.0000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 5/ 0 RIVL = 2.17 GRADIENT INTERVAL = -5.00/ 5.00

MACN	ALPHA	CH	CAU	CLM	CT	CYN	CSL	CL	CD	XCP/L	BETA
2.498	-8.984	-51790	.34280	.18620	-.04070	.02750	-.00030	-.43750	.42250	.32500	.77000
2.498	-8.842	-.39040	.33910	.19630	-.04150	.02530	-.00950	-.34720	.36320	.35420	.77310
2.498	-4.641	-.27080	.33330	.09700	-.03670	.02760	-.00670	-.24290	.35430	.39040	.77160
2.498	-2.517	-.16430	.32970	.04420	-.03760	.02660	-.00640	-.14960	.33660	.39060	.77210
2.498	-3.41	-.06700	.32890	.03900	-.03250	.02290	-.00690	-.04530	.32750	.39190	.76410
2.498	1.756	.02170	.32250	.01480	-.02750	.01610	-.00570	.01190	.32500	-.67590	.76250
2.498	3.923	.11660	.31800	-.01760	-.02160	.01310	-.00450	.09690	.32540	.14760	.75600
2.498	6.103	.22600	.31940	-.03790	-.01570	.00890	-.00220	.19320	.33750	.23210	.74690
2.498	8.279	.34290	.31210	-.09690	-.01540	.00920	-.00250	.29430	.35920	.29610	.74240
	GRADIENT	.04501	-.00176	-.01500	.00206	-.00176	.00052	.03920	-.00333	-.00970	-.00193

PARAMETRIC DATA

ELV-10 = 0.000 ELV-QS = -4.50
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XPRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YPRP = .0000 IN. YT
 SREF = 936.0000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 7/ 0 RIVL = 2.92 GRADIENT INTERVAL = -5.00/ 5.00

MACN	ALPHA	CH	CAU	CLM	CT	CYN	CSL	CL	CD	XCP/L	BETA
2.197	-8.018	-.49130	.37750	.17270	.00690	.00050	-.00090	-.43390	.44210	.39160	-.01258
2.197	-5.992	-.36770	.37160	.12740	.00420	.00260	-.00170	-.32690	.40750	.34680	-.00398
2.197	-3.970	-.24040	.36770	.06690	.00330	.00140	-.00140	-.22240	.36400	.34940	-.00470
2.197	-1.966	-.14460	.36320	.03490	.00460	.00130	-.00170	-.13190	.37000	.39000	-.00160
2.197	-.406	-.06260	.36340	.03150	.00700	-.00090	-.00090	-.06030	.36390	.39040	-.00360
2.197	.110	-.03720	.36160	.02370	.00710	-.00240	-.00060	-.03790	.36190	.63940	-.00160
2.197	1.414	.02490	.36010	.02360	.00430	.00340	-.00150	.01600	.36060	-.15320	.00370
2.197	3.965	.15150	.35360	-.04000	.01370	-.00650	.00160	.12660	.36330	.28420	-.01400
2.197	6.196	.27110	.35140	-.06460	.01630	-.00760	.00290	.23160	.37660	.31270	-.00090
2.197	8.431	.39390	.35060	-.12530	.01750	-.00660	.00330	.33620	.40490	.31620	-.00270
	GRADIENT	.05029	-.00173	-.01565	.00091	-.00091	.00034	.04369	-.00257	-.00963	-.00092

PARAMETRIC DATA

ELV-10 = 0.000 ELV-QS = -4.000
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

AMES 97-052 1A110 (04 112 31 P2 P0)

(0E1002) (05 AUG 74)

AMES 97-052 1A110 (01 T12 S1 P2 M6)

(0E1003) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XREF = 979.0000 IN. XT
 LREF = 474.8100 IN. YREF = .0000 IN. YT
 ZREF = 936.0000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 9.000 ELV-25 = -4.000
 RMVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 9/ 0 RMVL = 2.54 GRADIENT INTERVAL = -5.00/ 5.00

MA01	ALPHA	ON	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	BETA
1.995	-8.087	-30860	.39360	.17680	-.02250	.01530	-.00570	-.44990	.44310	.34900	.23600
1.995	-8.046	-.37710	.39030	.12920	-.02180	.01540	-.00550	-.35390	.42790	.34250	.23690
1.995	-4.065	-.25740	.36470	.08900	-.02180	.01570	-.00570	-.22950	.40290	.34990	.23910
1.995	-2.068	-.14660	.36220	.05340	-.02290	.01610	-.00590	-.13470	.39750	.35920	.26250
1.995	-.410	-.05220	.36010	.02050	-.01990	.01560	-.00520	-.04950	.39050	.40290	.25970
1.995	-.015	-.03590	.36010	.01460	-.02230	.01590	-.00590	-.03390	.39010	.43900	.26150
1.995	1.760	.08230	.37700	-.01660	-.01950	.01400	-.00460	.00960	.37990	.39150	.25670
1.995	4.051	.17910	.37070	-.06060	-.01290	.00950	-.00220	.15290	.39250	.35950	.24650
1.995	6.140	.29630	.36910	-.10440	-.00990	.00660	-.00120	.25530	.39770	.35250	.25650
1.995	8.379	.41560	.36940	-.14120	-.00740	.00310	-.00050	.35550	.42470	.34140	.23190
GRADIENT	.05425	-.00167	-.01960	.00105	-.00093	-.00042	.00754	-.00234	-.00362	-.00146	

AMES 97-052 1A110 (01 T12 S1 P2 M6)

(0E1004) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XREF = 979.0000 IN. XT
 LREF = 474.8100 IN. YREF = .0000 IN. YT
 ZREF = 936.0000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 9.000 ELV-25 = -4.000
 RMVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 11/ 0 RMVL = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

MA01	ALPHA	ON	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	BETA
1.800	-8.073	-.51640	.41060	.16050	-.04030	.03230	-.00840	-.45360	.47930	.34960	.64570
1.800	-8.074	-.39140	.40370	.13630	-.04210	.03420	-.00970	-.34630	.44490	.34810	.65060
1.800	-4.072	-.26330	.40110	.09170	-.04150	.03430	-.00950	-.23410	.41690	.34840	.65060
1.800	-2.045	-.14220	.40010	.04770	-.04260	.03560	-.01060	-.12760	.40500	.33960	.65260
1.800	-.882	-.06660	.39930	.02160	-.03930	.03330	-.00990	-.06240	.40230	.31770	.64790
1.800	-.056	-.02940	.39930	.00640	-.03990	.03410	-.01000	-.02680	.39840	.29570	.64820
1.800	1.466	.08410	.39560	-.02460	-.04140	.03560	-.01010	.03590	.39750	.39710	.64920
1.800	3.901	.20160	.39760	-.07530	-.03410	.02950	-.00820	.17400	.40370	.37360	.63990
1.800	5.936	.30470	.38770	-.11240	-.03050	.02750	-.00670	.26290	.41720	.35920	.63900
1.800	7.936	.40900	.38600	-.14690	-.02900	.02470	-.00460	.35160	.43990	.35920	.62790
GRADIENT	.05774	-.00132	-.02067	.00063	-.00051	.00019	.00070	-.00176	-.00321	-.00146	

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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (ON T12 S1 P2 P8)

(051000) (05 AUG 74)

REFERENCE DATA

SRF = 2880.0000 50.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BRIF = 936.6000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 0.000 ELV-CB = -4.000
 RM/L = 2.500 RMFLAP = .000
 SPURK = .000 FLUDER = .000
 BETA = .000

RUN NO. 13/ 0 RM/L = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WCH	ALPHA	CH	CAU	CLM	CT	CYN	CEL	Q	CD	KCP/L	BETA
1.547	-8.074	-32100	-43060	.18410	-.00290	.02760	-.00750	-.45330	.49500	.95340	.57438
1.547	-8.080	-36340	-42350	.15570	-.00030	.02360	-.00450	-.34170	.46420	.34820	.34010
1.547	-4.031	-24300	-42150	.09020	-.00300	.02700	-.00920	-.21560	.43770	.32630	.57068
1.547	-2.048	-12160	-42210	.03390	-.00240	.02360	-.00600	-.10560	.42520	.27670	.57420
1.547	-.099	.00490	-42040	-.01130	-.00310	.02370	-.00770	.00340	.42040	2.39500	.57150
1.547	1.867	.11520	-41930	-.04990	-.00060	.02290	-.00770	.10150	.42160	.43336	.34960
1.547	3.931	.22440	-41550	-.09010	-.00250	.02190	-.00640	.19530	.42800	.40150	.54630
1.547	5.904	.33470	-41210	-.12900	-.00270	.01750	-.00420	.39990	.44490	.39540	.53530
1.547	7.993	.43960	-40760	-.16590	-.01660	.01520	-.00450	.57670	.46490	.37730	.54520
	GRADIENT	.09933	-.00100	-.02139	.00294	-.00051	.00720	.00191	-.00119	.01419	-.00147

AMES 97-052 1A110 (ON T12 S1 P2 P8)

(051000) (05 AUG 74)

REFERENCE DATA

SRF = 2880.0000 50.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BRIF = 936.6000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 0.000 ELV-CB = -4.000
 RM/L = 2.500 RMFLAP = .000
 SPURK = .000 FLUDER = .000
 ALPHA = .000

RUN NO. 6/ 0 RM/L = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WCH	BETA	CH	CAU	CLM	CT	CYN	CEL	Q	CD	KCP/L	ALPHA
2.498	-7.976	-.04560	.33390	.02670	.30290	-.15360	.04670	-.06340	.33436	.43630	-.42560
2.498	-5.720	-.06700	.33340	.03370	.21500	-.11310	.03270	-.06480	.33360	.50260	-.41720
2.498	-3.575	-.06670	.33100	.03550	.12900	-.06770	.01950	-.06430	.33150	.53150	-.41240
2.498	-1.399	-.06910	.32950	.03600	.04710	-.02240	.00330	-.06680	.32990	.54690	-.41290
2.498	.793	-.07100	.32490	.03920	-.03720	.02450	-.00750	-.06960	.32540	.55270	-.41350
2.498	2.932	-.07010	.32250	.03910	-.11460	.06990	-.02120	-.06760	.32320	.55860	-.40630
2.498	5.097	-.06750	.32040	.03900	-.19490	.11320	-.03460	-.06330	.32090	.57730	-.39960
2.498	7.249	-.06440	.32130	.03940	-.27610	.15360	-.04760	-.06410	.32170	.57950	-.39520
2.498	9.378	-.06860	.32560	.03670	-.35670	.20630	-.06550	-.06430	.32630	.59070	-.39710
	GRADIENT	-.00056	-.00134	.00053	-.03746	.02113	-.00604	-.00037	-.00136	.00599	.00596

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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (CA T12 S1 P2 P6)

(021007) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. 100RP = 979.0000 IN. XT
 LREF = 474.8100 IN. 110RP = .0000 IN. YT
 BREF = 934.8000 IN. 210RP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 8/ 0 RML = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WACH	BETA	CH	CAU	CLM	CT	CYN	CEL	CL	CD	KCP/L	ALPHA
2.197	-6.797	-0.0900	.36310	.01800	.39540	-.10500	.05000	-.05990	.36390	.30230	-.45370
2.197	-6.867	-.75960	.36460	.02120	.27860	-.14610	.04620	-.05700	.36310	.35390	-.45370
2.197	-4.812	-.06300	.36370	.02600	.19910	-.11040	.03320	-.06010	.36420	.41170	-.44930
2.197	-2.106	-.06300	.36470	.03020	.09420	-.05870	.01400	-.06220	.36320	.46340	-.44930
2.197	-.846	-.06300	.36390	.03040	.03700	-.01830	.00410	-.06220	.36440	.47130	-.44450
2.197	1.194	-.06900	.36070	.03330	-.04610	.05120	-.01010	-.06610	.36120	.48070	-.44370
2.197	3.154	-.06140	.35930	.02860	-.12520	.07930	-.02480	-.05970	.35970	.46390	-.43440
2.197	5.223	-.05640	.35600	.02610	-.21710	.12970	-.04030	-.05170	.35640	.46390	-.42490
2.197	7.161	-.05600	.35600	.02590	-.30030	.17640	-.05590	-.05330	.35640	.45390	-.42090
	GRADIENT	-.00005	-.00064	.00046	-.04123	.02396	-.02723	-.00007	-.00065	.05669	.00196

PARAMETRIC DATA

ELV-18 = 8.000
 RML = 2.500
 SPODER = .000
 ALPHA = .000

AMES 97-052 1A110 (CA T12 S1 P2 P6)

(021008) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. 100RP = 979.0000 IN. XT
 LREF = 474.8100 IN. 110RP = .0000 IN. YT
 BREF = 934.8000 IN. 210RP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 10/ 0 RML = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

WACH	BETA	CH	CAU	CLM	CT	CYN	CEL	CL	CD	KCP/L	ALPHA
1.995	-7.795	-.05210	.36960	.01110	.30890	-.16480	.05480	-.04900	.39000	.21260	-.46390
1.995	-5.684	-.05120	.36990	.01360	.21360	-.10660	.03780	-.04810	.38930	.26890	-.45790
1.995	-3.679	-.05160	.36750	.01630	.12730	-.06080	.02110	-.04950	.38790	.31810	-.45250
1.995	-1.727	-.05380	.36400	.01990	.05120	-.02220	.00700	-.05060	.38440	.37030	-.44840
1.995	.193	-.05560	.37960	.02140	-.02280	.01690	-.00540	-.05270	.38200	.39440	-.44400
1.995	2.322	-.05390	.37660	.02060	-.10090	.06030	-.02000	-.05100	.37710	.39290	-.44080
1.995	4.355	-.04590	.37600	.01700	-.18470	.11030	-.03630	-.04930	.37640	.37140	-.42890
1.995	6.322	-.04400	.37570	.01620	-.27270	.16240	-.03470	-.04125	.37620	.36940	-.42540
1.995	8.353	-.04460	.37690	.01590	-.36820	.21780	-.07260	-.04190	.37720	.35470	-.42330
	GRADIENT	.00056	-.00151	.00009	-.03960	.02113	-.00703	.00034	-.00193	.05599	.00293

PARAMETRIC DATA

ELV-18 = 8.000
 RML = 2.500
 SPODER = .000
 ALPHA = .000



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TABULATED SOURCE DATA - 1A180

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AMES 97-032 1A180 (ON T12 S1 P2 M6)

(0210000 (03 AUG 74)

REFERENCE DATA

SREF = 2480.0000 50.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 934.8800 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 0.000 ELV-CB = -4.000
 RML = 2.500 SDFLAP = .000
 SPDRK = .000 RUDDER = .000
 ALPHA = .000

RUN NO. 12/ 0 RML = 2.52 GRADIENT INTERVAL = -3.00/ 5.00

WACH	BETA	CH	CAU	CLM	CT	CTH	COL	CL	CD	RCPL	ALPHA
1.000	-7.948	-.04200	.40760	.00338	.30480	-.17280	.05960	-.00440	.40750	.07528	-.50480
1.000	-3.833	-.04200	.40620	.00410	.21820	-.11840	.04180	-.03640	.40630	.14598	-.52080
1.000	-3.639	-.04780	.40450	.01140	.12540	-.04270	.02340	-.04400	.40490	.23978	-.52358
1.000	-1.542	-.04710	.40280	.01360	.04410	-.01220	.00360	-.04360	.40300	.29180	-.49880
1.000	.527	-.04680	.39950	.01500	-.03760	.03210	-.00950	-.04520	.39990	.30520	-.49480
1.000	2.363	-.04770	.39550	.01450	-.10350	.04440	-.02150	-.04460	.39580	.29520	-.48818
1.000	4.344	-.04430	.39310	.01450	-.18050	.10610	-.03750	-.04100	.39350	.32750	-.49000
1.000	6.395	-.04100	.39020	.01360	-.24410	.15140	-.05450	-.03760	.39050	.33630	-.47078
1.000	8.365	-.03620	.38790	.01150	-.33920	.20640	-.07350	-.03530	.38820	.31120	-.46720
GRADIENT	.00025	.00034	-.00130	.00034	-.03651	.02061	-.00743	.00025	-.00131	.00336	.00032

AMES 97-032 1A180 (ON T12 S1 P2 M6)

(0210000 (03 AUG 74)

REFERENCE DATA

SREF = 2480.0000 50.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 934.8800 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 0.000 ELV-CB = -4.000
 RML = 2.500 SDFLAP = .000
 SPDRK = .000 RUDDER = .000
 ALPHA = .000

RUN NO. 14/ 0 RML = 2.52 GRADIENT INTERVAL = -3.00/ 5.00

WACH	BETA	CH	CAU	CLM	CT	CTH	COL	CL	CD	RCPL	ALPHA
1.947	-8.127	-.02150	.43520	-.00960	.33680	-.19420	.07210	-.01760	.43540	-.24388	-.53688
1.947	-6.099	-.02400	.43210	-.00410	.24250	-.13520	.03140	-.01950	.43230	-.17258	-.53758
1.947	-4.099	-.02630	.42780	-.00110	.15140	-.08250	.03180	-.02250	.42800	-.04570	-.53548
1.947	-2.008	-.02420	.42330	-.00070	.04350	-.02960	.01220	-.02040	.42350	-.02740	-.52700
1.947	-.216	-.02320	.42040	-.00150	-.00370	.00640	-.00150	-.02060	.42060	-.06250	-.52450
1.947	1.670	-.02490	.41960	.00000	-.07940	.03240	-.01840	-.02118	.42020	.03880	-.52258
1.947	3.667	-.02060	.41900	-.00150	-.15840	.09550	-.03710	-.01700	.41920	-.07418	-.51420
1.947	5.648	-.01890	.42150	-.00220	-.25900	.14720	-.05440	-.01520	.42170	-.11758	-.51250
1.947	7.965	-.02130	.42490	.00020	-.33810	.20440	-.07630	-.01750	.42510	.01058	-.51180
GRADIENT	.00052	.00106	-.00106	.00000	-.03649	.02251	-.00650	.00050	-.00106	.00153	.00055

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TABULATED SOURCE DATA - 1A110

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AMES 97-032 1A110 (03 112 31 P2 P4)

(0310611) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SO.FT. WARP = 979.0000 IN. XT
 LINEF = 474.8100 IN. YARP = .0000 IN. YT
 ORIF = 936.8000 IN. ZARP = 400.0000 IN. ZT
 SCALE = .0150

ELV-10 =
 RWL =
 SPDSER =
 BETA =

PARAMETRIC DATA

0.000 ELV-08 = .000
 2.500 REF LAP = .000
 .000 RUMBER = .000
 .000

RUN NO. 15/ 0 RWL = 2.53 GRADIENT INTERVAL = -3.00/ 3.00

MAON	ALPHA	CH	CAU	CLM	CT	CTN	CEL	CL	CD	ICP/L	BETA
2.498	-7.838	-44800	.37500	.15840	-.03790	.00410	-.00940	-.39760	.39690	.35400	.77998
2.498	-9.081	-33910	.33310	.12000	-.04030	.02710	-.00970	-.30350	.34000	.35400	.79388
2.498	-3.978	-23940	.32930	.08390	-.03660	.02850	-.00870	-.21260	.34440	.36220	.76138
2.498	-1.927	-14200	.32630	.05820	-.03420	.02300	-.00810	-.13990	.33990	.35000	.77980
2.498	.127	-.03350	.32310	.03480	-.03250	.02120	-.00710	-.05420	.32300	.34000	.77980
2.498	1.413	.00210	.32070	.01990	-.02930	.01970	-.00480	-.00990	.32370	-.9.43950	.77250
2.498	3.923	.11330	.31800	-.01570	-.02130	.01230	-.00440	.09140	.32300	.13900	.76140
2.498	6.131	.22300	.31340	-.03880	-.01740	.00600	-.00290	.19280	.33370	.25340	.75390
2.498	8.330	.34000	.31060	-.09760	-.01590	.00920	-.00270	.29140	.34540	.26760	.74650
GRADIENT	.04443		-.00170	-.01272	.00217	-.00197	.00334	.03971	-.00276	-.62759	-.50043

AMES 97-032 1A110 (03 112 31 P2 P4)

(0310620) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SO.FT. WARP = 979.0000 IN. XT
 LINEF = 474.8100 IN. YARP = .0000 IN. YT
 ORIF = 936.8000 IN. ZARP = 400.0000 IN. ZT
 SCALE = .0150

ELV-10 =
 RWL =
 SPDSER =
 BETA =

PARAMETRIC DATA

0.000 ELV-08 = .000
 2.500 REF LAP = .000
 .000 RUMBER = .000
 .000

RUN NO. 17/ 0 RWL = 2.54 GRADIENT INTERVAL = -3.00/ 3.00

MAON	ALPHA	CH	CAU	CLM	CT	CTN	CEL	CL	CD	ICP/L	BETA
1.998	-8.080	-.50810	.39300	.17590	-.08030	.01570	-.00530	-.44750	.48230	.34830	.23238
1.998	-8.048	-.38080	.39000	.12990	-.08230	.01570	-.00600	-.33760	.48000	.34000	.23790
1.998	-4.070	-.28170	.38430	.09020	-.08130	.01530	-.00420	-.23360	.40180	.34680	.23740
1.998	-2.073	-.15200	.39210	.05370	-.08160	.01530	-.00400	-.13600	.39740	.35370	.23950
1.998	-.020	-.03840	.37960	.01600	-.08240	.01570	-.00420	-.03660	.37990	.41320	.26310
1.998	1.747	.03730	.37710	-.01760	-.01970	.01370	-.00370	.04600	.37970	.32970	.25970
1.998	3.968	.17340	.37060	-.03920	-.01390	.00930	-.00300	.14720	.36200	.34190	.24680
1.998	6.123	.24930	.36030	-.10240	-.00990	.00730	-.00200	.24960	.33710	.35370	.23690
1.998	8.343	.40870	.34620	-.14010	-.00760	.00330	-.00140	.39070	.42410	.34290	.23190
GRADIENT	.03414		-.00161	-.01637	.00068	-.00088	.00337	.04744	-.00242	-.50229	-.50324

AMES 97-052 1A110 (01 112 S1 P2 P6)

(BE1015) (03 AUG 74)

REFERENCE DATA

SREF = 3890.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.6900 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELY-18 = 0.000 ELY-08 = .000
 RW/L = 2.500 BOFLAP = .000
 SPOOKR = .000 RUDDER = .000
 ALPHA = .000

RUN NO. 18/ 0 RW/L = 2.54 GRADIENT INTERVAL = -9.00/ 5.00

MACN	BETA	CN	CAU	CLM	CY	CYN	CL	CL	CD	KCP/L	ALPHA
1.996	-7.724	-.05510	.39920	.01290	.30600	-.16640	.03550	-.05500	.30970	.21060	-.67750
1.996	-3.704	-.05890	.38660	.01560	.21510	-.10970	.03790	-.05530	.39900	.28590	-.67590
1.996	-3.876	-.05760	.39720	.01760	.12890	-.04020	.02060	-.05460	.39770	.30760	-.68370
1.996	-1.732	-.05840	.39570	.02050	.03160	-.02240	.00630	-.05530	.39420	.39560	-.69000
1.996	.180	-.06240	.37930	.02340	-.02210	.01490	-.00590	-.05930	.39530	.37540	-.67550
1.996	2.333	-.05920	.37610	.02160	-.10370	.06170	-.02090	-.05620	.37680	.38540	-.65360
1.996	4.335	-.05200	.37540	.01930	-.18630	.11160	-.03710	-.04910	.37590	.35490	-.63430
1.996	6.315	-.05040	.37570	.01820	-.27090	.16180	-.05420	-.04760	.37530	.36060	-.63490
1.996	8.346	-.05070	.37630	.01760	-.36700	.21740	-.07520	-.04790	.37670	.34740	-.63690
GRADIENT	.00055	.00055	-.00155	.00211	-.03960	.02126	-.00710	.00352	-.00156	.00333	.00276

AMES 97-052 1A110 (01 112 S1 P2 P6)

(BE1016) (03 AUG 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.6900 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELY-18 = 0.000 ELY-08 = .000
 RW/L = 2.500 BOFLAP = .000
 SPOOKR = .000 RUDDER = .000
 ALPHA = .000

RUN NO. 20/ 0 RW/L = 2.52 GRADIENT INTERVAL = -9.00/ 5.00

MACN	BETA	CN	CAU	CLM	CY	CYN	CL	CL	CD	KCP/L	ALPHA
1.947	-6.117	-.02990	.43490	-.00410	.33610	-.19360	.07090	-.02570	.43510	-.13760	-.55290
1.947	-6.091	-.03430	.43220	-.00090	.23960	-.13390	.09030	-.03010	.43250	-.02330	-.55630
1.947	-4.094	-.03320	.42730	.00070	.13120	-.06260	.03130	-.02910	.42760	.02520	-.54790
1.947	-2.010	-.03260	.42520	.00170	.06350	-.03020	.01210	-.02960	.42390	.03390	-.54260
1.947	-.208	-.02930	.42060	.00020	-.00660	.01140	-.00330	-.02540	.42090	.00560	-.53590
1.947	1.888	-.02850	.41910	-.00220	-.06010	.05260	-.01900	-.02240	.41930	-.00470	-.52790
1.947	3.965	-.02960	.41900	.00030	-.13790	.09910	-.03720	-.02570	.41930	.01540	-.53250
1.947	5.931	-.02890	.42150	.00070	-.24260	.19020	-.05640	-.02970	.42170	.02410	-.53960
1.947	7.961	-.02600	.42480	.00130	-.33710	.20390	-.07640	-.02210	.42500	.04030	-.52340
GRADIENT	.00266	.00266	-.00104	-.00011	-.03847	.02234	-.00949	.00265	-.00105	-.00342	.00233

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TABULATED SOURCE DATA - 1A110

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AMES 97-032 1A110 (01 112 31 P2 P6)

(021017) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XREF = 979.0000 IN. XT
 LINEF = 474.8100 IN. YREF = .0000 IN. YT
 SREF = 936.8000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

ELV-10 = 0.000 ELV-08 = -0.000
 RMVL = 2.500 RMFLAP = .000
 SP000K = .000 NUMBER = .000
 BETA = .000

PARAMETRIC DATA

RUN NO. 25/ 0 RMVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CH	CAU	CLM	CT	CYN	CEL	CL	CD	ICPVL	BETA
2.497	-7.913	-4.830	33900	.10010	-.04080	.02990	-.00900	-.41240	.40040	.34200	.76000
2.497	-5.930	-33400	33300	.12510	-.04000	.02730	-.00870	-.31700	.34030	.34470	.76000
2.497	-3.931	-24030	32920	.09130	-.03900	.02730	-.00870	-.22600	.34000	.37310	.76000
2.497	-2.004	-11500	32970	.06540	-.03930	.02730	-.00860	-.14470	.33090	.41000	.76270
2.497	-.209	-.03600	32240	.03960	-.03400	.02240	-.00720	-.05940	.32250	.70000	.77700
2.497	2.110	.02070	31630	.01040	-.03020	.01640	-.00460	.00950	.31690	-.89090	.77330
2.497	4.006	.10990	31490	-.01110	-.02310	.01290	-.00460	.00710	.32270	.10130	.76330
2.497	6.043	.20860	31270	-.04000	-.01900	.01930	-.00300	.17230	.33270	.22230	.75600
2.497	8.034	.31190	31000	-.06370	-.01600	.00770	-.00240	.26560	.35040	.26900	.74900
GRADIENT			-.00170	-.01266	.00210	-.00104	.00051	.03937	-.00293	-.07966	-.02031

AMES 97-032 1A110 (01 112 31 P2 P6)

(021018) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XREF = 979.0000 IN. XT
 LINEF = 474.8100 IN. YREF = .0000 IN. YT
 SREF = 936.8000 IN. ZREF = 400.0000 IN. ZT
 SCALE = .0150

ELV-10 = 0.000 ELV-08 = -0.000
 RMVL = 2.500 RMFLAP = .000
 SP000K = .000 NUMBER = .000
 BETA = .000

PARAMETRIC DATA

RUN NO. 25/ 0 RMVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CH	CAU	CLM	CT	CYN	CEL	CL	CD	ICPVL	BETA
1.996	-8.014	-.31030	34920	.10330	-.00020	.01310	-.00300	-.45910	.40360	.35730	.23000
1.996	-5.990	-.39000	34970	.13030	-.02230	.01900	-.00390	-.34000	.40030	.35360	.23340
1.996	-4.015	-.27250	36400	.09900	-.02310	.01990	-.00310	-.24530	.40220	.36340	.23730
1.996	-2.019	-.16150	36190	.06200	-.02320	.01990	-.00390	-.14000	.30690	.36400	.23660
1.996	.034	-.04520	37930	.02400	-.01910	.01230	-.00470	-.04940	.37930	.27020	.23410
1.996	2.022	.03990	37560	-.01100	-.01870	.01240	-.00410	.04280	.37760	.20660	.23240
1.996	4.042	.16260	36940	-.04990	-.01270	.02760	-.00210	.13610	.37990	.26720	.24250
1.996	6.008	.27000	36700	-.09010	-.00990	.00930	-.00110	.22990	.39330	.33360	.25370
1.996	8.012	.37460	36730	-.12390	-.02140	.00300	-.00010	.31970	.41610	.37020	.22530
GRADIENT			-.00173	-.01845	.00126	-.00096	.00049	.04750	-.00268	-.01423	-.00173

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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (OF 112 31 P2 P6)

(031010) (03 AUG 74)

REFERENCE DATA

SREF = 2400.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.8000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 21/ 0 RIVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WAOH	ALPHA	CH	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	BETA
1.547	-8.050	-33500	.43050	.19480	-.03410	.02400	-.00710	-.46950	.50120	.36430	-8.000
1.547	-8.057	-40950	.42500	.15000	-.03210	.02450	-.00740	-.36240	.46360	.36620	.000
1.547	-4.041	-28750	.42110	.09440	-.03410	.02560	-.00810	-.23750	.43970	.35260	.000
1.547	-2.049	-13710	.42120	.04320	-.03250	.02530	-.00800	-.12190	.42590	.35010	.000
1.547	-1.122	-01940	.41970	.00360	-.03250	.02570	-.00810	-.01870	.41940	.19260	.000
1.547	1.956	.10350	.41660	-.03970	-.03130	.02670	-.00760	.08960	.41990	.39180	.000
1.547	3.898	.20360	.41260	-.07670	-.02625	.02090	-.00610	.17550	.42550	.37610	.000
1.547	5.938	.31100	.41120	-.11470	-.02190	.01730	-.00470	.26690	.44120	.36990	.000
1.547	7.936	.41530	.40680	-.15180	-.01780	.01430	-.00420	.35510	.46720	.36560	.000
	GRADIENT	.05937	-.00109	-.02146	.00065	-.00046	.00021	.05216	-.00165	.00319	-.00196

AMES 97-052 1A110 (OF 112 31 P2 P6)

(031020) (03 AUG 74)

REFERENCE DATA

SREF = 2400.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.8000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 26/ 0 RIVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WAOH	BETA	CH	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	ALPHA
2.497	-8.004	-04560	.33620	.02970	.31380	-.18290	.04840	-.04720	.33210	.56380	-8.000
2.497	-8.045	-07700	.33550	.03980	.22720	-.11760	.03360	-.07900	.33400	.51780	.000
2.497	-4.118	-07800	.33180	.04200	.15080	-.07910	.02190	-.07800	.33220	.53810	.000
2.497	-2.040	-07600	.32900	.04420	.07000	-.03480	.00860	-.07690	.32950	.56080	.000
2.497	.019	-05670	.32420	.03920	-.00730	.00710	-.00280	-.03620	.32390	.69250	.000
2.497	1.937	-06090	.32120	.04570	-.07760	.04680	-.01420	-.07920	.32170	.56520	.000
2.497	4.031	-06090	.31930	.04640	-.15500	.09180	-.02620	-.07900	.31960	.57410	.000
2.497	8.030	-06030	.31650	.04660	-.22690	.12960	-.03990	-.07500	.31900	.59010	.000
2.497	8.050	-07730	.32160	.04530	-.30930	.17190	-.05360	-.07500	.32200	.58640	.000
	GRADIENT	-.00036	-.00162	.00030	-.03740	.00065	-.00605	-.00036	-.00161	.00394	.00149



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AMES 97-052 1A110 (04 112 S1 P2 M0)

(021021) (03 AUG 74)

REFERENCE DATA

SREF = 2490.0000 34.FT. 34RP = 979.0000 IN. XT
 LREF = 474.8100 IN. 14RP = .0000 IN. YT
 BREF = 936.6600 IN. 24RP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 9.000 ELV-CB = -9.000
 RM/L = 2.500 BOFLAP = .000
 SPOCK = .000 RUDDER = .000
 ALPHA = .300

RUN NO. 24/ 0 RM/L = 2.53 GRADIENT INTERVAL = -5.00/ 5.00

WCH	BETA	CN	CAU	CLM	CY	CYN	CB	CL	CD	KCP/L	ALPHA
1.544	-8.040	-0.0810	.36950	.02070	.34860	-.17300	.05460	-.04330	.36900	.31310	-.41398
1.544	-8.008	-0.0810	.36950	.02330	.22980	-.11630	.03940	-.04320	.39000	.34230	-.41400
1.544	-4.019	-0.0930	.36720	.02960	.14330	-.04990	.02480	-.04630	.36770	.39330	-.40948
1.544	-2.081	-0.0700	.36360	.02970	.04340	-.02950	.00990	-.04750	.36430	.42390	-.40360
1.544	-.036	-0.0240	.37340	.03270	-.01290	.00970	-.00340	-.04970	.37990	.43130	-.40100
1.544	2.006	-0.0900	.37990	.05700	-.00970	.03270	-.01000	-.04640	.37640	.44810	-.39440
1.544	3.994	-0.0190	.37530	.02770	-.16810	.00990	-.03280	-.03940	.37990	.44730	-.39230
1.544	5.996	-0.0280	.37690	.02790	-.23530	.13190	-.05040	-.04010	.37530	.44540	-.39330
1.544	8.012	-0.0930	.37690	.02960	-.34780	.20300	-.06800	-.05690	.37990	.43390	-.37870
GRADIENT		.00060	-.00156	.00016	-.03871	.02101	-.03710	.00076	-.03157	.00746	.00314

AMES 97-052 1A110 (04 112 S1 P2 M0)

(021022) (03 AUG 74)

REFERENCE DATA

SREF = 2490.0000 34.FT. 34RP = 979.0000 IN. XT
 LREF = 474.8100 IN. 14RP = .0000 IN. YT
 BREF = 936.6600 IN. 24RP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 9.000 ELV-CB = -9.000
 RM/L = 2.500 BOFLAP = .000
 SPOCK = .000 RUDDER = .000
 ALPHA = .300

RUN NO. 22/ 0 RM/L = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

WCH	BETA	CN	CAU	CLM	CY	CYN	CB	CL	CD	KCP/L	ALPHA
1.547	-7.979	-0.0430	.43490	.00790	.32580	-.18700	.04870	-.03860	.43530	.18260	-.55418
1.547	-5.961	-0.0430	.43210	.01010	.23970	-.13210	.04990	-.04010	.43250	.22760	-.55169
1.547	-3.979	-0.0470	.42710	.01230	.14830	-.06930	.03970	-.04390	.42790	.26320	-.55275
1.547	-2.012	-0.0490	.42360	.01420	.06910	-.03170	.01270	-.04530	.42400	.28790	-.55210
1.547	-.107	-0.0430	.41970	.01200	-.00930	.01120	-.00320	-.03990	.42010	.27990	-.54099
1.547	1.962	-0.0410	.41660	.01220	-.06310	.03930	-.01910	-.03790	.41990	.29700	-.53340
1.547	3.940	-0.0400	.41640	.01140	-.13620	.09600	-.03670	-.03690	.41660	.26310	-.52990
1.547	5.954	-0.04210	.42100	.01250	-.24140	.14720	-.05490	-.03620	.42140	.29720	-.53270
1.547	8.033	-0.0360	.42400	.01390	-.33730	.20290	-.07390	-.03490	.42430	.35660	-.52260
GRADIENT		.00114	-.00113	-.00021	-.03917	.02227	-.00940	.00111	-.00113	.00240	.00329

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AMES 97-032 1A110 (01 112 31 P2 P6)

(0E1023) (03 AUG 74)

REFERENCE DATA

MRP = 2890.0000 90.FT. XMRP = 979.0000 IN. XT
 LMRP = 474.0100 IN. YMRP = .0000 IN. YT
 WMRP = 936.0000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 27/ 0 RML = 2.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CH	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	BETA
1.947	-51910	.43470	.17690	-.00800	.02460	-.00720	-.44910	.30260	.34280	.26450
1.947	-8.032	.42090	.12910	-.03420	.09960	-.00960	-.33630	.48720	.35400	.26770
1.947	-4.024	.42470	.07900	-.03480	.02660	-.00900	-.21060	.44060	.30260	.26670
1.947	-2.035	.42480	.02340	-.03610	.02650	-.00900	-.09650	.42940	.22560	.27270
1.947	-.106	.00310	-.01600	-.03350	.02790	-.00910	.00390	.42360	3.14870	.26760
1.947	1.972	.12420	-.03720	-.03130	.02610	-.00630	.10960	.42520	.48030	.26090
1.947	3.923	.22670	-.09490	-.02610	.02610	-.00640	.19750	.43140	.41770	.26070
1.947	5.965	.35230	-.13170	-.02190	.01820	-.00500	.29740	.44760	.39640	.25190
1.947	7.971	.43600	-.18940	-.01770	.01430	-.00410	.37490	.46700	.34620	.24410
GRADIENT	.05092	-.00096	-.32096	.00106	-.00070	.00034	.03146	-.00106	.01995	-.02135

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = .000
 RML = 2.500 ROP/LAP = .000
 SPORER = .000 RUDDER = .000
 BETA = .000

AMES 97-032 1A110 (01 112 31 P2 P6)

(0E1024) (03 AUG 74)

REFERENCE DATA

MRP = 2890.0000 90.FT. XMRP = 979.0000 IN. XT
 LMRP = 474.0100 IN. YMRP = .0000 IN. YT
 WMRP = 936.0000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

RUN NO. 28/ 0 RML = 2.76 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CH	CAU	CLM	CY	CYN	COL	CL	CD	XCP/L	BETA
1.995	-51070	.39800	.17390	-.01990	.01340	-.00310	-.44860	.46690	.34040	.23180
1.995	-8.146	.39200	.12690	-.02020	.01360	-.00320	-.33770	.43120	.33220	.23530
1.995	-4.137	.39080	.06690	-.01640	.01290	-.00310	-.23220	.40490	.35300	.23590
1.995	-2.120	.38430	.04870	-.02140	.01460	-.00360	-.13310	.39950	.33940	.24060
1.995	-.042	.03290	.01020	-.01940	.01310	-.00300	-.03220	.38230	.31370	.23770
1.995	1.977	.07670	-.02600	-.01870	.01260	-.00460	.06360	.39050	.36320	.23990
1.995	4.017	.18410	-.08690	-.01130	.00740	-.00180	.13750	.36440	.36330	.24260
1.995	6.025	.29180	-.10710	-.00970	.00700	-.00160	.25130	.36070	.36700	.23620
1.995	8.043	.39790	-.14030	-.00840	.00440	-.00090	.34210	.42270	.35260	.22990
GRADIENT	.05435	-.00174	-.01863	.00063	-.00059	.00037	.04784	-.00245	.03466	-.02133

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = .000
 RML = 2.760 ROP/LAP = .000
 SPORER = .000 RUDDER = .000
 BETA = .000

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TABULATED SOURCE DATA - 1A110

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AMES 97-052 1A110 (01 T12 S1 P2 P6)

(BE1025) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.8000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 12.000 ELV-CB = -4.000
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 30/ 0 RIVL = 2.52 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	ON	CAU	CLM	CY	CYN	CEL	CL	CD	XCP/L	BETA
1.996	-8.075	-.50700	.39730	.17600	-.01810	.01120	-.00440	-.44090	.46470	.34870	.24730
1.996	-6.053	-.36060	.39210	.12970	-.02120	.01350	-.00540	-.33730	.43300	.34060	.25400
1.996	-4.076	-.28260	.38640	.09040	-.02010	.01320	-.00500	-.23440	.40400	.34420	.23420
1.996	-2.073	-.14870	.38390	.05210	-.02090	.01390	-.00340	-.13470	.39910	.37960	.23710
1.996	-.019	-.03650	.38160	.01490	-.01970	.01260	-.00310	-.03660	.39160	.40410	.23560
1.996	1.973	.07160	.37780	-.02320	-.01840	.01170	-.00410	.03950	.37990	.32400	.23340
1.996	3.906	.17350	.37190	-.06260	-.01270	.00760	-.00210	.14920	.36320	.34560	.24360
1.996	5.976	.28440	.36920	-.10150	-.00930	.00590	-.00120	.24440	.36690	.35700	.23460
1.996	7.963	.36000	.36900	-.13430	-.00610	.00350	-.00060	.33300	.42070	.34620	.22760
1.996	GRADIENT	.05436	-.00175	-.01671	.00066	-.00264	.00035	.04762	-.00232	-.00115	-.00123

AMES 97-052 1A110 (01 T12 S1 P2 P6)

(BE1026) (03 AUG 74)

REFERENCE DATA

SREF = 2000.0000 SQ.FT. XMRP = 979.0000 IN. XT
 LREF = 474.8100 IN. YMRP = .0000 IN. YT
 BREF = 936.8000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-10 = 12.000 ELV-CB = -4.000
 RIVL = 2.500 BOFLAP = .000
 SPDRK = .000 RUDDER = .000
 BETA = .000

RUN NO. 29/ 0 RIVL = 2.51 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	ON	CAU	CLM	CY	CYN	CEL	CL	CD	XCP/L	BETA
1.547	-8.064	-.52250	.43470	.16280	-.03360	.02540	-.00690	-.45640	.50360	.34930	.50950
1.547	-6.053	-.36910	.42810	.13390	-.03330	.02470	-.00740	-.34170	.46670	.34410	.57220
1.547	-4.031	-.24920	.42420	.07940	-.03320	.02490	-.00600	-.21860	.44060	.31870	.57360
1.547	-2.042	-.12040	.42410	.03120	-.03160	.02480	-.00600	-.10520	.42810	.29940	.57100
1.547	-.120	-.00600	.42270	-.00650	-.03150	.02350	-.00900	-.00510	.42270	-1.40700	.56350
1.547	1.943	.11700	.41970	-.05160	-.03320	.02710	-.00940	.10320	.42350	.43620	.57100
1.547	3.906	.21680	.41810	-.08910	-.02670	.02110	-.00630	.18600	.42990	.40620	.56220
1.547	5.960	.32700	.41400	-.12660	-.02350	.01990	-.00530	.26220	.44370	.36780	.55320
1.547	7.966	.43370	.40900	-.16450	-.01760	.01450	-.00400	.37280	.46520	.37940	.54430
1.547	GRADIENT	.05964	-.00104	-.02101	.00057	-.00025	.00015	.05139	-.00130	.00033	-.00113

AMES 97-052 1A110 (01 112 31 P2 P6)

(BE1027) (03 AUG 74)

REFERENCE DATA

SRZF = 2680.0000 SO.FT. 198P = 979.0000 IN. XT
 LREF = 474.8100 IN. 198P = .0000 IN. YT
 BRZF = 936.6800 IN. 298P = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = -8.000
 RMVL = 2.900 BOFLAP = .000
 SPOBEN = .000 RUDDER = .000
 BETA = .000

RUN NO. 32/ 0 RMVL = 2.55 GRADIENT INTERVAL = -5.00/ 5.00

MMCH	ALPHA	CN	CAU	CLM	CY	CYN	COL	CL	CD	KCP/L	BETA
1.994	-51740	.16360	.39680	.00430	-.00000	.00430	-.00340	-.41630	.46740	.39328	.23480
1.996	-8.036	.36630	.13350	.00640	-.01250	.00640	-.00420	-.34270	.43190	.35060	.24250
1.998	-4.061	.26710	.09480	.01120	-.00360	.00360	-.00360	-.22500	.40360	.39940	.24250
1.999	-2.071	.15640	.06810	.01060	-.00340	.00340	-.00340	-.14240	.39040	.37900	.24260
1.996	-.022	-.04310	.30300	.02030	-.00360	.00360	-.00360	-.04300	.36300	.47000	.24170
1.996	1.970	.04620	.37630	-.01810	-.01060	.00430	-.00290	.03310	.39030	.27390	.24470
1.996	3.975	.18960	.37260	-.01510	-.00390	-.00010	-.00090	.14240	.36360	.32890	.23220
1.996	5.936	.27330	.37010	-.09530	-.00150	-.00090	.00040	.23440	.36670	.34620	.22360
1.996	7.943	.36110	.37040	-.12900	-.00290	-.00170	.00060	.32630	.41930	.33690	.22120
GRADIENT	.09439	-.00160	-.01884	.00073	-.00062	.00033	.00065	.04765	-.00268	-.00423	-.00099

AMES 97-052 1A110 (01 112 31 P2 P6)

(BE1028) (03 AUG 74)

REFERENCE DATA

SRZF = 2680.0000 SO.FT. 198P = 979.0000 IN. XT
 LREF = 474.8100 IN. 198P = .0000 IN. YT
 BRZF = 936.6800 IN. 298P = 400.0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

ELV-18 = 12.000 ELV-08 = -8.000
 RMVL = 2.900 BOFLAP = .000
 SPOBEN = .000 RUDDER = .000
 BETA = .000

RUN NO. 31/ 0 RMVL = 2.55 GRADIENT INTERVAL = -5.00/ 5.00

MMCH	ALPHA	CN	CAU	CLM	CY	CYN	COL	CL	CD	KCP/L	BETA
1.947	-52370	.16630	.43400	.19630	-.03190	.02430	-.00690	-.45990	.50320	.35480	.56440
1.947	-8.031	.36250	.42780	.13790	-.00060	.02370	-.00720	-.34540	.46640	.35140	.56360
1.947	-4.021	.25300	.42420	.09460	-.00390	.02530	-.00630	-.22460	.44100	.33190	.57340
1.947	-2.009	.12910	.42360	.03790	-.00070	.02420	-.00790	-.11300	.42600	.29360	.56770
1.947	-.117	-.01150	.42200	-.00290	-.00360	.02440	-.00760	-.01060	.42200	-.21560	.56740
1.947	1.992	.10340	.42000	-.04260	-.02910	.02400	-.00730	.09100	.42330	.40690	.56360
1.947	3.893	.20810	.41960	-.06000	-.02550	.02000	-.00400	.17740	.42690	.36900	.55990
1.947	5.933	.31460	.41360	-.11930	-.01950	.01960	-.00390	.27010	.44410	.37600	.54660
1.947	7.939	.42090	.40660	-.19630	-.01750	.01390	-.00360	.36040	.46280	.37140	.54390
GRADIENT	.05829	-.00104	-.02047	.00093	-.00054	.00026	.00064	.05064	-.00145	.01207	-.00156

DATE 31 OCT 74

TABULATED SOURCE DATA - 1A310

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1A70 0111231P298

(277004) (08 AUG 74)

REFERENCE DATA

SREF = 3000.0000 20.FT. 300P = .0000 IN. XT
 LINEP = 474.0000 IN. 400P = .0000 IN. YT
 SREF = 938.7000 IN. 200P = .0000 IN. ZT
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELY-LO = .000
 ELY-LI = 8.000 ELY-RI = 8.000
 ELY-RO = .000 ELY-AP = .000

RUN NO. 23/ 2 RIVL = 8.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CHFO	CHFI	CHET	CHFF	CHV	CTV
.897	-8.960	.02960	.02720	.03710	.02000	-.01210	-.01240
.897	-8.370	.02710	.02910	.03330	.01630	-.00640	-.00640
.897	-4.210	.02620	.02390	.03220	.01300	-.00010	-.00010
.897	-2.120	.02070	.02410	.04490	.01900	.00510	.00500
.897	.010	.02060	.02690	.04760	.01790	.01050	.01160
.897	2.140	.02190	.03260	.03440	.01430	.01390	.01600
.897	4.280	.02310	.03730	.04240	.01500	.01960	.02420
.897	6.430	.01670	.03470	.03190	.01590	.02310	.02920
.897	8.580	.00320	.03110	.03640	.00920	.02620	.03230
GRADIENT		-.00006	.00149	.00141	.00015	.00236	.00299

RUN NO. 24/ 2 RIVL = 8.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CHFO	CHFI	CHET	CHFF	CHV	CTV
1.090	-8.040	.04060	.03790	.03960	.01000	-.01740	-.01020
1.090	-6.620	.03770	.03050	.03630	.00330	-.01070	-.00460
1.090	-4.430	.03970	.04260	.04230	-.00120	-.00390	.00160
1.090	-2.240	.04260	.03950	.05120	-.00390	.00410	.00760
1.090	-.060	.02710	.03960	.06700	-.00610	.01110	.01160
1.090	2.120	.01510	.03910	.03420	-.00740	.01710	.01700
1.090	4.330	.00320	.03420	.03740	-.00990	.02240	.02090
1.090	6.590	-.00670	.02540	.01860	-.01440	.02790	.02370
1.090	8.680	-.01670	.01400	-.00260	-.01760	.03160	.02360
GRADIENT		-.00459	-.00074	-.00334	-.00096	.00296	.00216

RUN NO. 25/ 2 RIVL = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CHFO	CHFI	CHET	CHFF	CHV	CTV
1.200	-3.720	.03860	.06060	.03960	.00190	-.01690	-.00760
1.200	-6.440	.03590	.03390	.04940	-.00090	-.00320	-.00290
1.200	-4.270	.02840	.04610	.07460	-.00430	-.00130	.00060
1.200	-2.090	.01940	.03910	.03790	-.00790	.00270	.00430
1.200	.130	.00690	.03470	.04170	-.00960	.01240	.00660
1.200	2.330	-.00090	.03290	.03190	-.01230	.01610	.01390
1.200	4.520	-.00970	.02790	.01820	-.01340	.02320	.01940
1.200	6.730	-.01860	.01910	.00090	-.01640	.02600	.02220
1.200	8.960	-.02640	.00820	-.01620	-.02140	.03160	.02330
GRADIENT		-.00434	-.00195	-.00431	-.00105	.00261	.00204

DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

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1A70 0111251P298

(ZFF0004) (08 AUG 74)

REFERENCE DATA

3007 = 3000.0000 50.FT. 3007P = .0000 IN. XT
 1007 = 474.0000 IN. 1007P = .0000 IN. YT
 0007 = 934.7000 IN. 0007P = .0000 IN. ZT
 SCALE = .0150

RUN NO. 60/ 2 RW/L = 7.50 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELV-LO = .000
 ELV-L1 = 0.000 ELV-R1 = 0.000
 ELV-R0 = .000 SFLAP = .000

MACH	ALPHA	O/E0	O/E1	O/E2	O/E3	CBJ	CTW
1.504	-8.810	.01680	.06160	.00050	-.02350	-.01150	-.00660
1.504	-8.560	.00320	.03260	.05960	-.02300	-.00720	-.00690
1.504	-4.340	-.00730	.03660	.03150	-.02250	-.00150	-.00500
1.504	-2.130	-.01770	.02660	.02610	-.02350	.00320	-.00150
1.504	.110	-.02440	.01370	-.01060	-.02350	.01140	.00250
1.504	2.350	-.02650	.00200	-.02640	-.02660	.01650	.00670
1.504	4.550	-.03160	-.00760	-.02940	-.02560	.02190	.01140
1.504	6.750	-.03620	-.01900	-.03530	-.02690	.02390	.01540
1.504	9.000	-.03960	-.02470	-.04460	-.04160	.02690	.01630
GRADIENT		-.00267	-.00531	-.00797	-.00052	.00261	.00184

REFERENCE DATA

3007 = 3000.0000 50.FT. 3007P = .0000 IN. XT
 1007 = 474.0000 IN. 1007P = .0000 IN. YT
 0007 = 934.7000 IN. 0007P = .0000 IN. ZT
 SCALE = .0150

RUN NO. 26/ 2 RW/L = 8.10 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELV-LO = .000
 ELV-L1 = 12.000 ELV-R1 = 12.000
 ELV-R0 = .000 SFLAP = .000

MACH	ALPHA	O/E0	O/E1	O/E2	O/E3	CBJ	CTW
.897	-8.260	.02670	.00910	.03560	.01760	-.01060	-.01310
.897	-6.050	.02590	.01120	.03710	.01350	-.00460	-.00670
.897	-3.950	.02520	.01030	.03560	.01210	.00090	-.00090
.897	-1.820	.02070	.00650	.02920	.01360	.00630	.00350
.897	.500	.02060	.02600	.02660	.01500	.01250	.01130
.897	2.450	.02340	.00370	.02710	.00650	.01720	.01760
.897	4.550	.02190	.01040	.03240	.01060	.02120	.02340
.897	6.740	.00960	.00660	.01630	.01140	.02350	.02750
.897	8.850	-.00130	.00100	-.00030	.00130	.02650	.03050
GRADIENT		-.00016	-.00021	-.00040	-.00056	.00241	.00267

1A70 0111251P298

(ZFF0003) (08 AUG 74)

DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

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1A70 0171215P99

(277003) (08 AUG 74)

REFERENCE DATA

REF = 8000.0000 90.FT. MARP = .0000 IN. XT
 LREF = 474.0000 IN. YREF = .0000 IN. YT
 REF = 936.7000 IN. ZREF = .0000 IN. ZT
 SCALE = .0120

PARAMETRIC DATA

BETA = .000 ELV-LO = .000
 ELV-L1 = 12.000 ELV-R1 = 12.000
 ELV-R0 = .000 BFLAP = .000

RUN NO. 27/ 2 RIV/L = 6.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CH20	CH21	CH22	CH23	CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35	CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47	CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59	CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71	CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83	CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95	CH96	CH97	CH98	CH99	CH100	CH101	CH102	CH103	CH104	CH105	CH106	CH107	CH108	CH109	CH110	CH111	CH112	CH113	CH114	CH115	CH116	CH117	CH118	CH119	CH120	CH121	CH122	CH123	CH124	CH125	CH126	CH127	CH128	CH129	CH130	CH131	CH132	CH133	CH134	CH135	CH136	CH137	CH138	CH139	CH140	CH141	CH142	CH143	CH144	CH145	CH146	CH147	CH148	CH149	CH150	CH151	CH152	CH153	CH154	CH155	CH156	CH157	CH158	CH159	CH160	CH161	CH162	CH163	CH164	CH165	CH166	CH167	CH168	CH169	CH170	CH171	CH172	CH173	CH174	CH175	CH176	CH177	CH178	CH179	CH180	CH181	CH182	CH183	CH184	CH185	CH186	CH187	CH188	CH189	CH190	CH191	CH192	CH193	CH194	CH195	CH196	CH197	CH198	CH199	CH200	CH201	CH202	CH203	CH204	CH205	CH206	CH207	CH208	CH209	CH210	CH211	CH212	CH213	CH214	CH215	CH216	CH217	CH218	CH219	CH220	CH221	CH222	CH223	CH224	CH225	CH226	CH227	CH228	CH229	CH230	CH231	CH232	CH233	CH234	CH235	CH236	CH237	CH238	CH239	CH240	CH241	CH242	CH243	CH244	CH245	CH246	CH247	CH248	CH249	CH250	CH251	CH252	CH253	CH254	CH255	CH256	CH257	CH258	CH259	CH260	CH261	CH262	CH263	CH264	CH265	CH266	CH267	CH268	CH269	CH270	CH271	CH272	CH273	CH274	CH275	CH276	CH277	CH278	CH279	CH280	CH281	CH282	CH283	CH284	CH285	CH286	CH287	CH288	CH289	CH290	CH291	CH292	CH293	CH294	CH295	CH296	CH297	CH298	CH299	CH300	CH301	CH302	CH303	CH304	CH305	CH306	CH307	CH308	CH309	CH310	CH311	CH312	CH313	CH314	CH315	CH316	CH317	CH318	CH319	CH320	CH321	CH322	CH323	CH324	CH325	CH326	CH327	CH328	CH329	CH330	CH331	CH332	CH333	CH334	CH335	CH336	CH337	CH338	CH339	CH340	CH341	CH342	CH343	CH344	CH345	CH346	CH347	CH348	CH349	CH350	CH351	CH352	CH353	CH354	CH355	CH356	CH357	CH358	CH359	CH360	CH361	CH362	CH363	CH364	CH365	CH366	CH367	CH368	CH369	CH370	CH371	CH372	CH373	CH374	CH375	CH376	CH377	CH378	CH379	CH380	CH381	CH382	CH383	CH384	CH385	CH386	CH387	CH388	CH389	CH390	CH391	CH392	CH393	CH394	CH395	CH396	CH397	CH398	CH399	CH400	CH401	CH402	CH403	CH404	CH405	CH406	CH407	CH408	CH409	CH410	CH411	CH412	CH413	CH414	CH415	CH416	CH417	CH418	CH419	CH420	CH421	CH422	CH423	CH424	CH425	CH426	CH427	CH428	CH429	CH430	CH431	CH432	CH433	CH434	CH435	CH436	CH437	CH438	CH439	CH440	CH441	CH442	CH443	CH444	CH445	CH446	CH447	CH448	CH449	CH450	CH451	CH452	CH453	CH454	CH455	CH456	CH457	CH458	CH459	CH460	CH461	CH462	CH463	CH464	CH465	CH466	CH467	CH468	CH469	CH470	CH471	CH472	CH473	CH474	CH475	CH476	CH477	CH478	CH479	CH480	CH481	CH482	CH483	CH484	CH485	CH486	CH487	CH488	CH489	CH490	CH491	CH492	CH493	CH494	CH495	CH496	CH497	CH498	CH499	CH500	CH501	CH502	CH503	CH504	CH505	CH506	CH507	CH508	CH509	CH510	CH511	CH512	CH513	CH514	CH515	CH516	CH517	CH518	CH519	CH520	CH521	CH522	CH523	CH524	CH525	CH526	CH527	CH528	CH529	CH530	CH531	CH532	CH533	CH534	CH535	CH536	CH537	CH538	CH539	CH540	CH541	CH542	CH543	CH544	CH545	CH546	CH547	CH548	CH549	CH550	CH551	CH552	CH553	CH554	CH555	CH556	CH557	CH558	CH559	CH560	CH561	CH562	CH563	CH564	CH565	CH566	CH567	CH568	CH569	CH570	CH571	CH572	CH573	CH574	CH575	CH576	CH577	CH578	CH579	CH580	CH581	CH582	CH583	CH584	CH585	CH586	CH587	CH588	CH589	CH590	CH591	CH592	CH593	CH594	CH595	CH596	CH597	CH598	CH599	CH600	CH601	CH602	CH603	CH604	CH605	CH606	CH607	CH608	CH609	CH610	CH611	CH612	CH613	CH614	CH615	CH616	CH617	CH618	CH619	CH620	CH621	CH622	CH623	CH624	CH625	CH626	CH627	CH628	CH629	CH630	CH631	CH632	CH633	CH634	CH635	CH636	CH637	CH638	CH639	CH640	CH641	CH642	CH643	CH644	CH645	CH646	CH647	CH648	CH649	CH650	CH651	CH652	CH653	CH654	CH655	CH656	CH657	CH658	CH659	CH660	CH661	CH662	CH663	CH664	CH665	CH666	CH667	CH668	CH669	CH670	CH671	CH672	CH673	CH674	CH675	CH676	CH677	CH678	CH679	CH680	CH681	CH682	CH683	CH684	CH685	CH686	CH687	CH688	CH689	CH690	CH691	CH692	CH693	CH694	CH695	CH696	CH697	CH698	CH699	CH700	CH701	CH702	CH703	CH704	CH705	CH706	CH707	CH708	CH709	CH710	CH711	CH712	CH713	CH714	CH715	CH716	CH717	CH718	CH719	CH720	CH721	CH722	CH723	CH724	CH725	CH726	CH727	CH728	CH729	CH730	CH731	CH732	CH733	CH734	CH735	CH736	CH737	CH738	CH739	CH740	CH741	CH742	CH743	CH744	CH745	CH746	CH747	CH748	CH749	CH750	CH751	CH752	CH753	CH754	CH755	CH756	CH757	CH758	CH759	CH760	CH761	CH762	CH763	CH764	CH765	CH766	CH767	CH768	CH769	CH770	CH771	CH772	CH773	CH774	CH775	CH776	CH777	CH778	CH779	CH780	CH781	CH782	CH783	CH784	CH785	CH786	CH787	CH788	CH789	CH790	CH791	CH792	CH793	CH794	CH795	CH796	CH797	CH798	CH799	CH800	CH801	CH802	CH803	CH804	CH805	CH806	CH807	CH808	CH809	CH810	CH811	CH812	CH813	CH814	CH815	CH816	CH817	CH818	CH819	CH820	CH821	CH822	CH823	CH824	CH825	CH826	CH827	CH828	CH829	CH830	CH831	CH832	CH833	CH834	CH835	CH836	CH837	CH838	CH839	CH840	CH841	CH842	CH843	CH844	CH845	CH846	CH847	CH848	CH849	CH850	CH851	CH852	CH853	CH854	CH855	CH856	CH857	CH858	CH859	CH860	CH861	CH862	CH863	CH864	CH865	CH866	CH867	CH868	CH869	CH870	CH871	CH872	CH873	CH874	CH875	CH876	CH877	CH878	CH879	CH880	CH881	CH882	CH883	CH884	CH885	CH886	CH887	CH888	CH889	CH890	CH891	CH892	CH893	CH894	CH895	CH896	CH897	CH898	CH899	CH900	CH901	CH902	CH903	CH904	CH905	CH906	CH907	CH908	CH909	CH910	CH911	CH912	CH913	CH914	CH915	CH916	CH917	CH918	CH919	CH920	CH921	CH922	CH923	CH924	CH925	CH926	CH927	CH928	CH929	CH930	CH931	CH932	CH933	CH934	CH935	CH936	CH937	CH938	CH939	CH940	CH941	CH942	CH943	CH944	CH945	CH946	CH947	CH948	CH949	CH950	CH951	CH952	CH953	CH954	CH955	CH956	CH957	CH958	CH959	CH960	CH961	CH962	CH963	CH964	CH965	CH966	CH967	CH968	CH969	CH970	CH971	CH972	CH973	CH974	CH975	CH976	CH977	CH978	CH979	CH980	CH981	CH982	CH983	CH984	CH985	CH986	CH987	CH988	CH989	CH990	CH991	CH992	CH993	CH994	CH995	CH996	CH997	CH998	CH999	CH1000	CH1001	CH1002	CH1003	CH1004	CH1005	CH1006	CH1007	CH1008	CH1009	CH1010	CH1011	CH1012	CH1013	CH1014	CH1015	CH1016	CH1017	CH1018	CH1019	CH1020	CH1021	CH1022	CH1023	CH1024	CH1025	CH1026	CH1027	CH1028	CH1029	CH1030	CH1031	CH1032	CH1033	CH1034	CH1035	CH1036	CH1037	CH1038	CH1039	CH1040	CH1041	CH1042	CH1043	CH1044	CH1045	CH1046	CH1047	CH1048	CH1049	CH1050	CH1051	CH1052	CH1053	CH1054	CH1055	CH1056	CH1057	CH1058	CH1059	CH1060	CH1061	CH1062	CH1063	CH1064	CH1065	CH1066	CH1067	CH1068	CH1069	CH1070	CH1071	CH1072	CH1073	CH1074	CH1075	CH1076	CH1077	CH1078	CH1079	CH1080	CH1081	CH1082	CH1083	CH1084	CH1085	CH1086	CH1087	CH1088	CH1089	CH1090	CH1091	CH1092	CH1093	CH1094	CH1095	CH1096	CH1097	CH1098	CH1099	CH1100	CH1101	CH1102	CH1103	CH1104	CH1105	CH1106	CH1107	CH1108	CH1109	CH1110	CH1111	CH1112	CH1113	CH1114	CH1115	CH1116	CH1117	CH1118	CH1119	CH1120	CH1121	CH1122	CH1123	CH1124	CH1125	CH1126	CH1127	CH1128	CH1129	CH1130	CH1131	CH1132	CH1133	CH1134	CH1135	CH1136	CH1137	CH1138	CH1139	CH1140	CH1141	CH1142	CH1143	CH1144	CH1145	CH1146	CH1147	CH1148	CH1149	CH1150	CH1151	CH1152	CH1153	CH1154	CH1155	CH1156	CH1157	CH1158	CH1159	CH1160	CH1161	CH1162	CH1163	CH1164	CH1165	CH1166	CH1167	CH1168	CH1169	CH1170	CH1171	CH1172	CH1173	CH1174	CH1175	CH1176	CH1177	CH1178	CH1179	CH1180	CH1181	CH1182	CH1183	
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DATE 31 OCT 74

TABULATED SOURCE DATA - 1A110

PAGE 22

1A70 Q11251P290

CZFT0130 (08 AUG 74)

REFERENCE DATA

WREF = 3000.0000 90. FT. XREF = .0000 IN. XT
 LREF = 474.0000 IN. YREF = .0000 IN. YT
 WREF = 336.7000 IN. ZREF = .0000 IN. ZT
 SCALE = .0150

RUN NO. 54/ 3 RM/L = 7.40 GRADIENT INTERVAL = -3.00/ 5.00

WMOI	ALPHA	O-EO	O-ET	O-ET	O-EP	CBM	CTN
1.504	-8.630	.03370	.01670	.05230	-.01940	-.01210	-.00090
1.504	-8.460	.01930	.00920	.02000	-.02100	-.00730	-.00730
1.504	-4.260	.00410	-.00330	.00270	-.02130	-.00190	-.00360
1.504	-2.060	-.00300	-.01310	-.01820	-.02300	.00430	-.00220
1.504	.170	-.00920	-.02740	-.05490	-.02490	.01100	.00230
1.504	2.400	-.01440	-.03910	-.05360	-.02610	.01660	.00390
1.504	4.620	-.01660	-.04630	-.04950	-.02690	.02150	.01070
1.504	6.840	-.02420	-.05730	-.06150	-.03060	.02360	.01460
1.504	9.030	-.02660	-.06360	-.06230	-.03330	.02670	.01600
1.504	GRADIENT	-.00275	-.00312	-.00764	-.00072	.00245	.00185

PARAMETRIC DATA

BETA = .000 ELV-LO = -4.000
 ELV-LI = 12.000 ELV-RI = 12.000
 ELV-RO = -4.000 ENLAP = .000

1A70 Q11251P290

CZFT0130 (08 AUG 74)

REFERENCE DATA

WREF = 3000.0000 90. FT. XREF = .0000 IN. XT
 LREF = 474.0000 IN. YREF = .0000 IN. YT
 WREF = 336.7000 IN. ZREF = .0000 IN. ZT
 SCALE = .0150

RUN NO. 55/ 3 RM/L = 7.40 GRADIENT INTERVAL = -3.00/ 5.00

WMOI	ALPHA	O-EO	O-ET	O-ET	O-EP	CBM	CTN
1.504	-8.730	.03720	.04300	.10030	-.02430	-.01240	-.00670
1.504	-8.570	.02130	.03330	.07470	-.02450	-.00790	-.00460
1.504	-4.360	.00460	.00910	.04390	-.02230	-.00330	-.00330
1.504	-8.160	-.00860	.00760	.08490	-.02340	.00430	.00430
1.504	.090	-.00660	.01460	.00290	-.02340	.01030	.00690
1.504	2.270	-.01370	.00210	-.01160	-.02730	.01600	.00690
1.504	4.490	-.01790	-.00620	-.02610	-.02340	.02100	.01260
1.504	6.690	-.02310	-.01600	-.04120	-.02460	.02320	.01670
1.504	8.910	-.02760	-.02430	-.05200	-.04170	.02630	.01960
1.504	GRADIENT	-.00271	-.00343	-.00615	-.00023	.00265	.00162

PARAMETRIC DATA

BETA = .000 ELV-LO = -4.000
 ELV-LI = 6.000 ELV-RI = 6.000
 ELV-RO = -4.000 ENLAP = .000



1A7D 01Y12B1P2P0

(02 JAN 68) (GIBL42)

REFERENCE DATA

9807 =	2800,0000	50.Ft.	280P =	.0000	IN. 27
1007 =	474,0000	IN.	740P =	.0000	IN. 27
1007 =	936,7000	IN.	240P =	.0000	IN. 27
SCALE =				.01	50

ALLOY CHARACTERIZATION DATA

DETA =	.000	ELV-L0 =	-0.000
ELV-L1 =	0.000	ELV-R1 =	0.000
ELV-R0 =	-0.000	BFAP =	.000

RUN NO. 64 2 RM/L = 7.50 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	ALPHA	CHED	CHET	CHET	OHF	OH	CTM
1.504	-8.060	.03680	.06478	.12146	-.02450	-.01470	-.00450
1.504	-6.060	.03940	.03950	.09490	-.02490	-.01000	-.00470
1.504	-4.470	.02390	.04190	.06950	-.02560	-.00420	-.00520
1.504	-2.210	.01300	.02660	.04170	-.02350	.00240	.00040
1.504	-.090	.00910	.01690	.02170	-.02390	.00060	.00430
1.504	2.170	.00000	.00390	.00400	-.02650	.01430	.00940
1.504	4.440	-.00430	-.00920	-.01330	-.02360	.01950	.01290
1.504	6.610	-.00970	-.01670	-.02650	-.02650	.02370	.01700
1.504	8.820	-.01510	-.02400	-.03920	-.03720	.02690	.02000
GRADIENT		-.00312	-.00359	-.00692	-.00022	.00267	.00161

REFERENCE DATA

301E	=	2690.0000	59. FT.	Y46P	=	.0000	IN. XT
301F	=	474.6000	IN.	Y46P	=	.0000	IN. YT
301F	=	936.7000	IN.	Z46P	=	.0000	IN. ZT
SCALE	=	.0150					

PARAMETRIC DATA

BETA =	.000	ELV-LO =	-0.000
ELV-L1 =	12.000	ELV-R1 =	12.000
ELV-R0 =	-0.000	WFLAP =	.000

RUN NO.	65/ 2	RWL = 7.40	GRADIENT INTERVAL = -3.00/ 3.00
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WACH	ALPHA	OMEO	OHEI	OHEI	OHEI	OHEF	CBJ	CTV
1.1.504	-8.740	.03390	.01680	.07060	-.01960	-.01960	-.01360	-.07680
1.1.504	-8.560	.03730	.03650	.04360	-.02130	-.02130	-.03060	-.07050
1.1.504	-4.300	.02250	-.00390	.01750	-.02360	-.02360	-.03260	-.03450
1.1.504	-2.130	.01220	-.01650	-.00420	-.02350	-.02350	.00330	-.00110
1.1.504	.120	.00400	-.02950	-.02480	-.02510	-.02510	.00360	.00260
1.1.504	2.300	-.00030	-.04140	-.04160	-.02750	-.02750	.01540	.00710
1.1.504	4.540	.00490	-.05020	-.05320	-.02750	-.02750	.02060	.01160
1.1.504	8.760	-.01100	-.05920	-.07030	-.02950	-.02950	.02480	.01570
1.1.504	6.950	-.01620	-.06390	-.06010	-.04030	-.04030	.02770	.01870
GRADIENT		-.00304	-.00321	.00627	-.00277	-.00277	.00265	.00163